

Transforming PR's Transportation System

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- *Any future actions taken or not taken by the United States government related to Medicaid or the Affordable Care Act;*
- *The amount and timing of receipt of any distributions from the Federal Emergency Management Agency and private insurance companies to repair damage caused by Hurricanes Maria and Irma, earthquakes, and the COVID-19 pandemic;*
- *The amount and timing of receipt of any amounts allocated to Puerto Rico and provided under the Community Disaster Loans Program;*
- *The amount and timing of any additional amounts appropriated by the United States government to address the impacts of the COVID-19 pandemic;*
- *The amount and timing of receipt of any additional amounts appropriated by the United States government to address the funding gap described herein;*
- *The timeline for completion of the work being done by the Puerto Rico Electric Power Authority ("PREPA") to repair PREPA's electric system and infrastructure and the impact of any future developments or issues related to PREPA's electric system and infrastructure on Puerto Rico's economic growth;*
- *The impact of the COVID-19 pandemic on the financial, social, economic, and demographic condition of Puerto Rico;*
- *The impact of the measures described herein on outmigration; and*
- *The impact of the resolution of any pending litigation in the Title III cases*

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List of Acronyms and Key Terms

AAFAF	Puerto Rico Fiscal Agency and Financial Advisory Authority (Spanish acronym)
April 2018 Fiscal Plan	Fiscal Plan certified April 2018, immediately following Hurricanes Maria and Irma which first set out the major reforms
CAGR	Compound Annual Growth Rate
CIP	Capital Improvement Plan
DB	Design-Build Contracting
DOH	Department of Health
DOJ	Department of Justice
DPS	Department of Public Safety
ER	Emergency Repair
EFL	Eastern Federal Lands – Division of US Federal Highway Administration
Federal Government	The U.S. Federal Government
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FOMB	Financial Oversight and Management Board for Puerto Rico
GNP	Gross National Product
Government	Government of Puerto Rico
Governor	Governor Wanda Vázquez Garced
Hacienda	Puerto Rico Department of Treasury
Hurricanes	Hurricane Irma and Hurricane Maria
Island	Puerto Rico
KPIs	Key Performance Indicators
LEA	Local Education Agency
March 2017 Fiscal Plan	Fiscal Plan certified by the Financial Oversight and Management Board in March 2017, before Hurricanes Maria and Irma hit the Island
October 2018 Fiscal Plan	Fiscal Plan certified by the Financial Oversight and Management Board in October 2018, updated for 2018 revenue and expenditure actuals
PayGo	Defined benefit actuarial responsibility program by which agencies and instrumentalities are responsible for paying their pensions obligations on an annual basis via a “PayGo Charge”
PMPM	Per Member Per Month
PRASA	Puerto Rico Aqueduct and Sewer Authority
PREPA	Puerto Rico Electric and Power Authority
PRHTA (or HTA)	Puerto Rico Highway and Transportation Authority
PROMESA	Puerto Rico Oversight, Management and Economic Stability Act
ROW	Right of Way
SOGR	State of Good Repair
2019 Fiscal Plan	Fiscal Plan certified by the Financial Oversight and Management Board in May 2019

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PART I – EXECUTIVE SUMMARY

Every Puerto Rican deserves safe, well-maintained roads and an efficient and reliable mass transit system. Unfortunately, Puerto Rico's current transportation system falls short of these expectations and lags national standards for quality, safety, and reliability. Only 4% of Puerto Rico's highways are in good condition, compared to a median of 61% in the U.S., while fatality rates are 86% higher than the U.S. median.¹ In addition, the absence of a reliable transit system helps drive increased traffic congestion as residents lack an alternative to private vehicle transportation, resulting in severe traffic congestion. The San Juan metropolitan area is the 25th most congested city in the U.S.² Residents and commuters spend, on average, up to 46 hours per year in congested traffic, costing drivers up to \$400M per year in congestion related expenses. Meanwhile, the main public transportation alternative, Tren Urbano, has one of the lowest ridership's among transit systems in North America, with ~5.4 million annual riders, compared to an initial estimate of ~41.2 million annual riders. Tren Urbano also has one of the worst financial performances, recovering only 9 cents on every dollar of operational cost, while its peers recover approximately 25 cents.³

Despite recent crises, now is the moment to transform Puerto Rico's transportation system to support the island's economic development and ability to compete for investment globally. The transportation system has faced unprecedented challenges brought on by Hurricanes Irma and María in 2017, earthquakes and the COVID-19 pandemic in 2020.⁴ Supported by federal and local capital investments, the coming years represent the opportunity to emerge from these crises with a reimagined system. The quality of roads and congestion management play a critical role in supporting productivity. Restoring condition and performance can enable the full productive potential of businesses and people. In addition, transit enhancements decrease commute times of San Juan residents, improve mobility, and reduce the need to own a private vehicle. The 2020 Fiscal Plan supports a transformation of transportation system in service of its ability to support a more productive, competitive and resilient economic future for Puerto Rico.

¹ Highway Statistics 2018, Federal Highway Administration
(<https://www.fhwa.dot.gov/policyinformation/statistics/2018/hm64.cfm>);
(<https://www.fhwa.dot.gov/policyinformation/statistics/2018/fi30.cfm>).

² INRIX Global Traffic Scorecard, Found online at: <https://inrix.com/scorecard/>.

³ Ridership Data: Public Transportation Ridership Report, American Public Transportation Association, Found online at: <https://www.apta.com/wp-content/uploads/2018-Q4-Ridership-APTA.pdf> / Farebox Recovery: National Transit Database, Found online at: <https://www.transit.dot.gov/ntd/ntd-data>. TU Initial Ridership Estimates: Review of the Tren Urbano Finance Plan, US General Accounting Office, Dated 03/31/2000, p. 2.

⁴ In 2017, Hurricane Maria severely damaged the Island's highway and public transit networks, with HTA's hard cost damage estimates of \$596M, validated with FHWA oversight. In 2020, earthquakes negatively impacted the transportation system and capital program, particularly in the southern region of the island, with an estimated cost of ~\$40M. Social distancing measures adopted as a result of the recent COVID-19 pandemic have reduced traffic volumes by as much as ~70% at their lowest point during the pandemic, based on HTA's weekly toll collections and traffic reports.

As one of the entities with direct responsibilities over key transportation assets, the Puerto Rico Highways and Transportation Authority (HTA or the Authority) must take the lead in promoting and implementing the many reforms needed to provide a reliable transportation system to Puerto Rico's residents and businesses. HTA has four objectives aligned with this mission: (a) providing transit security and delivering safety projects, (b) preserving and improving existing transportation infrastructure, (c) maintaining an integrated highway system, and (d) reducing traffic.⁵ Doing so, however, requires HTA to become financially sustainable and operationally efficient. However, as of June 2020, HTA failed to make progress on key initiatives designed to improve its ability to deliver on its core objectives, particularly in enhancing revenues and improving operational efficiency and accountability. While there was real progress in the rate of disbursements in the capital program, bringing the transformation back on track will require a renewed commitment from HTA to reform its operating model, sustain revenue streams, and accelerate capital project delivery.

Exhibit 1: Budget to Actuals (as of Feb 29, 2020)

	Feb 28, 2020 - YTD			
	Budget ¹	Actual	Var	Var (%)
Millions (\$)				
Toll fares	96.2	90.9	(5.2)	(5.5)
Toll fines	8.9	0	(8.9)	(100)
Transit revenue	4.7	5.2	0.5	10.5
Other income	7.9	8.6	0.7	9
Own revenue	117.8	104.8	(13)	(11)
CW funding	51.9	51.9	0	0
Federal funding	154.8	141.7	(13.1)	(8.5)
External funding	206.7	193.6	(13.1)	(6.3)
Total revenue	324.5	298.4	(26.1)	(8.0)
Payroll & PayGo	57.3	58.1	(0.8)	1.3
TU, ITS & Toll maintenance	84.0	69.1	14.9	(17.8)
Reserve & ROW payments	11.8	10.7	1.2	(9.8)
Other operating expenses	24.8	14.6	10.2	(41.3)
Total operating expenses	178.0	152.4	25.6	(14.4)
Federal Construction Program	130.8	119.9	11.0	(8.4)
Non-Federal Construction Program	92.9	60.5	32.4	(34.9)
Emergency Repair Program	37.3	26.3	11.0	(30.0)
Other capital expenses	7.9	7.8	0.1	(0.9)
Total capital expenses	268.9	214.5	54.5	20.3
Total expenses	446.9	366.9	80.0	17.9
Balance	(122.4)	(68.5)	53.9	44.0

HTA's FY20 budget performance highlight areas of lagging results, even before the impact of the COVID-19 pandemic. As of February 2020, revenues underperformed across most categories and the budgeted capital program experienced delivery shortfalls (see Exhibit 1). Pre-COVID-19 Budget-to-Actuals reflect an 11% decline

⁵ Article 2, Act No. 74 of June 23, 1965, as amended, known as the "Puerto Rico Highways and Transportation Authority Enabling Act"

in HTA's own revenues, primarily due to the non-implementation of toll fare increases and the ongoing toll fine moratorium. CapEx disbursements for the Federal Construction program, non-federal construction program and emergency repair program were 8.4%, 34.9% and 30% below budget, respectively. The underspending in capital investments, a key function of HTA, reveals significant problems and inefficiencies in the CapEx delivery program due to the lack of a clear and consistent management structure and the lack of prioritization of critical improvement and maintenance activities. The emergence of the COVID-19 pandemic has further exacerbated HTA's financial challenges and exposed key weaknesses in its operating structure. HTA's own revenues across March and April have been reduced to 36% of projected levels, driven mostly by significant reductions in traffic levels. CapEx disbursements have been mostly paralyzed as a result of the strict social distancing measures adopted by the Commonwealth government.

In FY20, implementation significantly fell behind the performance goals for Fiscal Measures established by the 2019 Certified Fiscal Plan (see Exhibit 2). Failure to implement measures weakened HTA's fiscal sustainability and its ability to improve and maintain Puerto Rico's transportation infrastructure. HTA's lack of implementation also made it extra vulnerable to short-term liquidity pressures and to unforeseen emergencies, such as the COVID-19 epidemic. Overall, the lack of implementation of most measures led to a significant shortfall relative to previous targets:

- **Organizational enhancements:** While metrics and organizational KPIs have been created, no progress has been made to improve governance, especially on legislation to enhance the Board composition.
- **Revenue increases:** HTA failed to implement toll fare increases and failed to enforce toll fines. This lack of enforcement has further increased non-payment of tolls in the system. While HTA captured ancillary revenues that exceeded the FY20 target, unwillingness to collect and enhance its revenues placed HTA in a perilous financial condition and generated a liquidity crisis.
- **Process management:** The toll fine system had multiple, shifting timelines for restoration that were delayed at least three times in FY20. The failure to implement toll fine collections led HTA to forego \$13M in projected revenues, further worsening its liquidity constraints.
- **Operational expense optimization:** The latest round of HTA's Voluntary Transition Program ("VTP") had modest uptake, but only reached approximately ~59% of its cumulative target. Even with targets not being reached, resources were exhausted due to higher than sanctioned levels of buyout payments (14 months paid on average versus allowed 6 months). Finally, changes to the health benefits plan required by both Puerto Rico law and previous Certified Fiscal Plans were not implemented.

Exhibit 2: FY20 Measures Implementation

● Performed worse ● Performed better ⚠ Fiscal Impact not expected in FY20

Fiscal measure	Description	Fiscal impact ¹ , \$M		
		FY20 Target	FY20 Actuals	Delays
1 Recruit a new Board of Directors	Recruit a new Board of Directors, with distinguished professionals from the private sector, thus promoting the independence of the Authority from political interference	Non-financial measures		Recruitment of new Board delayed by 1 year
2 Adopt capital delivery KPIs	Adopt a set of metrics that will be used to ensure that capital delivery happens on time and in line with best practices from other US states.			
3 Increase fare revenue	Increase toll fares in line with inflation and optimize fare collection through a new electronic tolling system	11.2	●	Fare increases delayed by 1 year
4 Increase fine revenue	Increase toll fines in line with inflation, introduce a tiered fine payment system and optimize fine collection through a new electronic tolling system	0.7	●	Fine collection delayed by 1 year
5 Improve ancillary revenue	Improve ancillary revenues through activities other than asset sales (e.g., advertising, rentals)	1.6	●	
6 Expand transit revenue	Expand transit revenues through the integration of TU with other transport networks and other initiatives (e.g., Transit Oriented Development)	-	⚠	
7 Manage congestion	Introduce new congestion management mechanisms (e.g., Dynamic Toll Lanes, Bus Rapid Transit, Traffic Signal Optimization)	14.7	●	Signal optimization delayed by 2 years
8 Collect discretionary funds	Collect more discretionary funds in order to execute projects that would further expand the capacity of the island's transport infrastructure	0.2	●	Recruitment of mgmt. team delayed by 1 year
9 Reduce pensions	Reduce pension costs in line with the targets laid out by the Commonwealth	-	N/A	
10 Reduce healthcare cost	Reduce costs of healthcare insurance while also maintaining a high level of benefits for covered employees	8.7	●	Healthcare reform delayed by 1 year
11 Eliminate Xmas bonus	Eliminate the Christmas bonus of HTA employees	0.5	●	Labor reform delayed by 1 year
12 Reassess contracts	Reassess the operating contract of Tren Urbano in order to bring the costs of TU closer to the costs of its North American peers	-	⚠	
13 Optimize capital expenses	Optimize capital expenses in a way that pushes HTA to be as efficient as other state transportation agencies	-	N/A	
Other	Explore concession opportunities that would enable the Authority to develop the infrastructure of the island in a cost conscious manner	2.5	●	Concession assessment delayed by 2 years
Total		9.3	1.2	

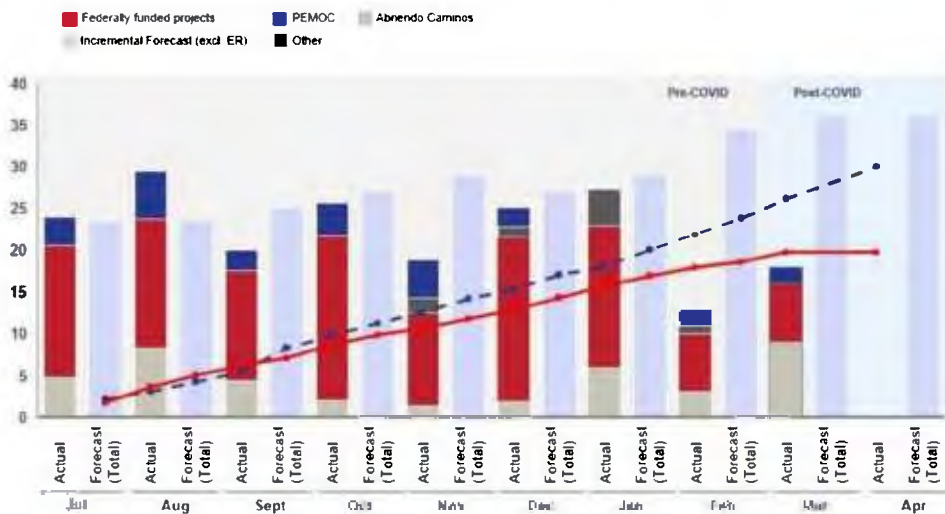
HTA achieved a substantial year-over-year improvement in the delivery of its capital program in FY20 until disruptions associated with COVID-19 (see Exhibit 3). As of the end of February, HTA delivered 80% of planned capital project disbursements (\$215M) on a YTD basis for FY20 compared to 29% of planned disbursements (\$175M) in FY19. However, HTA's performance was delayed across several project categories due to the lack of project optimization and other capacity challenges. Of particular concern are the delays in Emergency Repair (ER) projects, most of which relate to post-Maria recovery work and remain delayed nearly two-and-a-half years post hurricane. To date, only ~16% of the \$783M ER funds for Hurricane Maria recovery have been disbursed.⁶ The ER program, which is nearly fully funded by FHWA and FTA,⁷ has been delayed due to the difficulties HTA and their consultants have experienced in completing and delivering the final designs, environmental permitting, utility coordination, and ROW acquisition to EFL. These issues combined with the magnitude of the size of the program have prevented the projects from moving forward at a steady pace. Finally, performance reporting for these projects has made progress, but remains incomplete, including the requirement for project level reporting that is clear and easy for the public to access.

⁶ See Exhibit 8 and Sections 4.1 and 4.2 for additional details

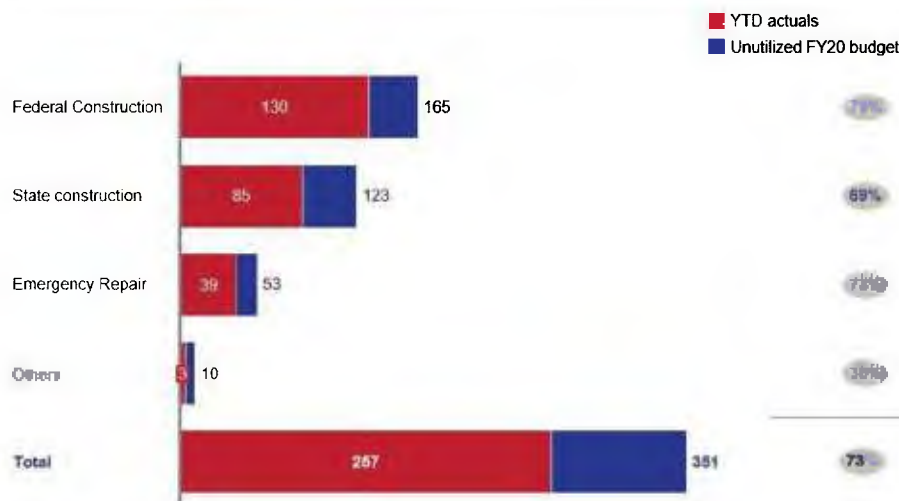
⁷ \$778M of the \$783M, or 99%, of the ER program is funded by FHWA (78% of program funding) and FTA (21% of total ER program funding) due largely to a congressional waiver of ER match requirements in 2018

Exhibit 3: Capital Disbursements (as of April 30, 2020)⁸

YTD actuals vs. budget, monthly disbursements, \$M



YTD actuals vs. budget by program, \$M



The 2020 Fiscal Plan provides a roadmap for HTA to put the transformation of the transportation infrastructure in Puerto Rico back on track. The 2020 Fiscal Plan empowers HTA to execute a \$10.5B capital program throughout FY2021-2049. This capital program represents, at times, more than three times the average size of the program during the period of FY14-18 and will therefore require a step change in performance to complete. Changes in HTA's governance and operating practices, including managerial improvements in capital project delivery outlined in its

⁸ CapEx disbursement figures are based on a modified accrual basis and may differ from accrual numbers reported in HTA's budget to actuals reporting

Memorandum of Understanding (MOU) with the Federal Highway Administration (FHWA), will be critical to enable it to safely and sustainably improve the system.⁹

The measures laid out in the 2020 Fiscal Plan are critical to enable HTA to have a sustainable future, assuming a significant restructuring of the legacy debt burden that is not affordable. HTA currently is approximately \$6 billion in debt. Since HTA entered Title III in May 2017, HTA has had insufficient cash flows to service its outstanding debt and has not made payments since July 2017. Based on the Fiscal Plan projections on cash flow, the existing HTA debt service will require significant restructuring and HTA's full commitment to delivering results across the following areas:

- **Improve governance and performance management:** The 2020 Fiscal Plan requires HTA to strengthen organizational and fiscal governance, accountability, internal controls, and performance through the establishment of organizational Key Performance Indicators (KPIs) to incentivize and monitor performance. The enhancement of HTA's Governing Board must provide HTA the guidance necessary to execute its objectives beyond political cycles.
- **Increase revenues to support fiscal sustainability:** The 2020 Fiscal Plan requires HTA to ensure the funding of essential public services by enhancing operating revenues across toll fares, toll fines and the transit system by adopting modest and sustainable increases in prices. Toll fares require increases to keep up with growing costs and investment requirements, an enhanced toll fine structure must reward early payment, and a series of transit enhancements must increase revenue for Tren Urbano which only receives 9 cents for every dollar it costs to operate. Finally, the 2020 Fiscal Plan requires HTA to pursue discretionary federal funding for transportation infrastructure improvements in the island.
- **Optimize operational expenses:** The 2020 Fiscal Plan requires HTA to explore the possibility of re-bidding certain existing contracts to achieve more favorable terms and evaluate additional concession opportunities to improve performance, as part of improving fiscal governance and internal controls and to enable the achievement of fiscal targets. Finally, the 2020 Fiscal Plan requires HTA to restructure its medical benefits plan, and comply with the reform of the Commonwealth employee retirement system in order to achieve fiscal sustainability, while also ensuring continued access to reasonable medical benefits and the long-term sustainability of its retirement system.
- **Execute an ambitious capital program to restore the system's condition and performance:** The 2020 Fiscal Plan requires HTA to prioritize projects, improve capital project delivery, and reduce soft costs to optimize capital expenditures (CapEx) necessary to promote economic growth. The proposed capital program increases disbursements from \$212M, on average, in FY13-FY18, to approximately \$350M in FY20-FY49. These disbursements include annual federal, non-federal, and

⁹ See section 3.3. for an overview of HTA's relationship with FHWA, and section 3.4 for details on FHWA's MOU with HTA

local total construction cost projections. Therefore, the program must further manage both regular and emergency repair construction programs across critical corridors.

- **Adjust the Authority's debts through Title III:** HTA entered its Title III case with approximately \$6.6B in debt. The June Fiscal Plan projects that although it should start generating annual operational surpluses if the measures proposed in this plan are implemented, it will still generate an aggregate net deficit of approximately \$1.7B over the next 30 years as a result of capital and reserve requirements. Its existing debt burden is therefore unsustainable and will need to be substantially reduced through a Title III plan of adjustment.
- **Update reporting requirements to promote transparency:** The 2020 Fiscal Plan adds capital, financial, and productivity reporting to the reporting requirements from the 2019 Certified Fiscal Plan in order to improve data reliability, accuracy, and transparency. One of the existing reporting requirements is related to maintaining and updating a capital program dashboard developed by the FOMB and made public concurrently with the publication of the 2020 Fiscal Plan. HTA is required to collaborate with the FOMB to provide the data needed to allow users of the Puerto Rican transportation system, and other stakeholders, to easily monitor the status and performance of the program at a project-by-project level, including project latitude and longitude coordinates.

PART II – DESCRIPTION OF HTA

CHAPTER 1: HTA MISSION, HISTORY & VISION

1.1) Mission and History of HTA

HTA is a public corporation under the oversight of Puerto Rico's Department of Transportation and Public Works (DTOP, for its Spanish acronym). Its mission is to:

- Ensure the people of Puerto Rico have access to quality roads and modes of transportation
- Promote the safe and easy movement of vehicles and individuals
- Relieve and reduce congestion and its associated effects
- Identify and implement strategies for addressing demand for newer and better transit and transportation facilities
- Contribute to the development and implementation of Puerto Rico's transportation plan; and
- Promote the development of areas surrounding train stations¹⁰

In order to fulfill these responsibilities, HTA both constructs new roads and maintains its existing network of primary (4,277 km-ln¹¹), secondary (5,936 km-ln), and tertiary (8,049 km-ln) roads (see Exhibit 4 for system map).¹² HTA has also supported other public entities (e.g., municipalities) with the management of federal construction grants and with the delivery of capital projects.

Exhibit 4 –Map of System



¹⁰ Article 2, Act No. 74 of June 23, 1965, as amended, known as the "Puerto Rico Highways and Transportation Authority Enabling Act"

¹¹ Lane kilometers

¹² Primary roads are generally divided, limited-access highways within the interstate highway system or under State-level management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways. Secondary roads are main arteries, usually in the U.S. Highway, State Highway, and/or County Highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. They usually have both a local name and a route number. Tertiary roads are other local roads.

To finance its capital delivery and to cover its operational expenses, HTA has installed tolling facilities in eight major roads of the island. As of May 2020, four of these toll roads (PR-20, PR-52, PR-53, PR-66) are managed and operated by HTA. The remaining four (PR-5, PR-17, PR-22, PR-199) are managed and operated by concessionaires.

HTA also operates Tren Urbano, San Juan's heavy rail system. The construction of Tren Urbano began in 1997. The project was delayed and experienced significant cost overruns, adding approximately \$1B to its \$1.25B initial construction budget.¹³ Tren Urbano was eventually completed in 2004, making San Juan the first city in the Caribbean with a rapid transit system.

1.2) HTA Vision

HTA currently shares the responsibility for the operation of public transportation assets in the San Juan metropolitan area with the Maritime Transport Authority (ATM) and with the Puerto Rico Integrated Transit Authority (PRITA). HTA operates Tren Urbano and the associated feeder buses, while PRITA operates the main bus network of San Juan and ATM operates the ferry between Old San Juan and Cataño.

While such a division might have been justified when these assets were constructed, it now contributes to inefficiencies in asset operations, maintenance, and capital projects. In most metropolitan areas of the US, public transit assets are under the control of an integrated transit authority that coordinates route networks, fare policies, time schedules, and the design of multi-modal transit initiatives.

Over the next fiscal year, the Commonwealth Fiscal Plan requires the reorganization of public transit assets on the island in a manner that allows economies of scale and ensures the best outcomes across different modes of transport (e.g., metro, buses).¹⁴ HTA must play an active role in this transformation and fulfill the requirements laid out in the Commonwealth Plan. The reorganization will enable HTA to focus exclusively on the construction, operation, and maintenance of the Island's road network. At the same time, PRITA would fulfill its founding mandate, acting as a unitary transit authority and managing all transit on the island (e.g., buses, ferries and Tren Urbano).¹⁵

This year's Fiscal Plan assumes that HTA will continue to maintain its current scope of responsibilities (e.g., maintaining Tren Urbano and its feeder buses), while this reorganization is implemented.

¹³ US General Accounting Office, Review of the Tren Urbano Finance Plan, p. 1 (Tren Urbano was initially estimated to cost ~\$1.25B) / FHWA, Project Profile: Tren Urbano, Found online at: https://www.fhwa.dot.gov/ipd/project_profiles/pr_tren_urbano.aspx (Tren Urbano ended up costing ~\$2.25B).

¹⁴ 2020 Commonwealth Fiscal Plan, Chapter 12

¹⁵ Art 3 of Act 123-2014, , (23 L.P.R.A. secc.11162).

CHAPTER 2: ORGANIZATIONAL STRUCTURE AND KEY PERFORMANCE INDICATORS

2.1) Key Performance Indicators (KPIs)

Reaching and maintaining a State of Good Repair (SOGR)¹⁶ for the road network of Puerto Rico is central to HTA's mission as a transportation authority and is the cornerstone of the Authority's Infrastructure Agenda, which can be found in Part III of this Plan. In order to achieve this objective, HTA would have to substantially improve the current performance of the Island's infrastructure across a series of different metrics, including percentage of pavement in good condition¹⁷ and road fatalities rate.¹⁸ Puerto Rico's current performance, minimum FHWA requirements, and target performance HTA must support achieving are provided in Exhibit 5.

Exhibit 5: Current HTA KPIs¹⁹

Metric	Progress required according to this Fiscal Plan		
	Current PR performance	Minimum FHWA requirements ³	Target performance (US Median in 2016)
	2.05	1.85	1.17
	11	2	81
	17	5	2
	2	2	81
		20	10
	9	10	4

Good Condition: International Roughness Index (IRI) of less than 95 / 2 Poor Condition: IRI of more than 170 / 3 As featured in the FY19 Certified FP

¹⁶ The exact definition of the term is left to the discretion of State DOTs. However, FHWA has defined SOGR in the context of exercises. This definition is the following: 97% of Interstate pavement in Good or Fair Condition, 85% of Non-Interstate National Highway System (NHS) pavement in Good or Fair Condition and 75% of Non-Interstate Non-NHS pavement in Good or Fair Condition. Good Condition is, in turn, defined as having an International Roughness Index (IRI) score of less than 95 and Fair Condition is defined as having an IRI score of less than 120. FHWA exercise found online at: <https://www.fhwa.dot.gov/asset/guidance/hif19006.pdf>

¹⁷ Good condition: having an International Roughness Index (IRI) score of less than 95

¹⁸ Road Fatalities Rate: Number of road fatalities per year / 100M of annual Vehicle Miles Travelled

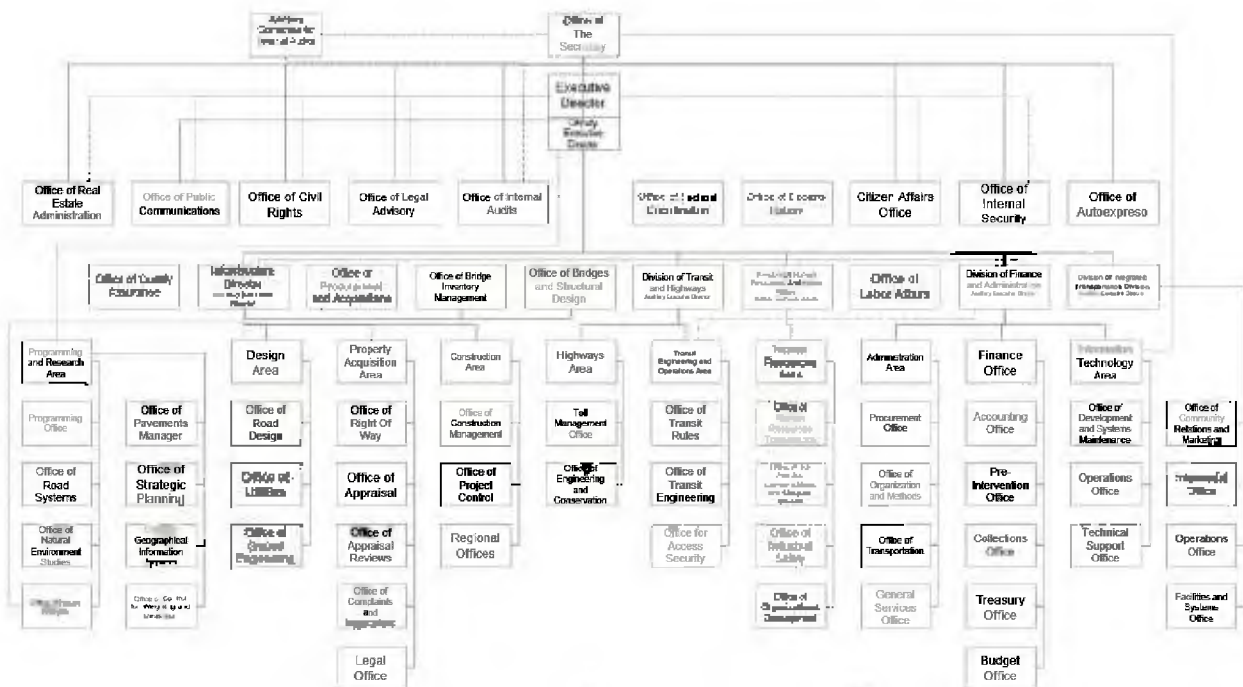
¹⁹ Current PR performance is based on data reported to FHWA in 2019, Found online at: <https://act.dtop.pr.gov/wp-content/uploads/2019/10/2028-PRTAMP-Final-Revised-Document-8-Oct-20191.pdf>

HTA is expected to make continued progress towards target performance across these metrics. Failure to meet the requirements can have a financial penalty imposed by FHWA and can impact capital program investments and priorities until requirements are met. HTA began to incur penalties in FY 20, due to the condition of the Interstate Pavement. The Authority will have to adopt a set of project-specific capital delivery KPIs, which are outlined in Part V of this Plan, to reach this goal. To closely track these KPIs, HTA needs to submit an annual report every May to FOMB, describing its past progress and laying out its targets for the upcoming year across the metrics laid out above. Additional reporting requirements will be required at greater frequency as described in Chapter 19 of the 2020 Fiscal Plan.

2.2) Organizational Structure

HTA sits within DTOP and the HTA Executive Director reports to the Secretary of DTOP. The Authority is led from the Office of the Executive Director, and has the organization structure shown in Exhibit 6:

Exhibit 6: Current organizational structure of HTA



In January 2018, HTA had 1,283 employees. Since then, 373 employees have enrolled in one of the three phases of the VTP, while HTA has also had a net attrition of 61 employees. Currently, HTA has 839 employees distributed across 16 administrative areas (which are

distinct from the fields in the organizational hierarchy)²⁰. Below is the breakdown of the Authority's employees by area:

Exhibit 7: Current HTA personnel by division

Division	Number of employees	Division	Number of employees
Area of Tren Urbano	11	Area of Infrastructure Support	50
Area of Highway Administration	75	Area of Infrastructure Technology	8
Area of Planning & Special Studies	42	Area of Human Resources	25
Area of Traffic Engineering	25	Area of Administration	40
Area of Property Acquisitions	20	Area of Administration & Finances	5
Area of Design	22	Area of Finances	28
Area of Construction	374	Area of Administrative Support	92
Area of Engineer Services	12	Area of Executive Director	10

Over the next Fiscal Year, HTA must assess the productivity of its remaining personnel. HTA must compile and submit regular productivity reports to the FOMB that lay out the personnel required to deliver core services, including implementation of its capital plan. Based on these productivity reports, HTA will develop an updated target for rightsizing its workforce, identifying divisions to sustain, grow, or shrink, to be implemented in FY22 and onwards. Further details of these requirements can be found in the "reporting requirements" section of this Plan.

Exhibit 8: Required Implementation Actions for assessing HTA's organizational productivity

Initiative	Action item	Responsible party	Deadline
Roll out HTA Productivity Reporting	Create template for required reporting data and share with HTA staff for review	FOMB	July 15, 2020
	Hold working session with HTA and relevant advisors to discuss productivity	HTA / FOMB	July 31, 2020

²⁰ Employee data comes from HTA's payroll file (submitted to FOMB on April 2020). Classification of administrative areas does not fully match divisions in HTA org chart due to ongoing organizational changes that HTA has to undertake as part of its MOU with FHWA.

Initiative	Action item	Responsible party	Deadline
	reporting cadence, objectives, and required detail		
	Calculate variable resource needs based on variable amount of CapEx delivered and provide detailed current state of payroll	HTA	August 10, 2020
	Provide first set of productivity reports to FOMB	HTA	August 15, 2020

CHAPTER 3: RELATIONSHIP WITH COMMONWEALTH, FOMB, FHWA, FTA AND EFL

3.1) Relationship of HTA with the Commonwealth

Since 1971, HTA has been under the purview of DTOP and has assumed the responsibility of delivering transportation infrastructure projects. Due to its role, HTA has historically received significant fiscal support from the Commonwealth. Before 2015, HTA received appropriations of revenues from the cigarette tax, gasoline tax, diesel tax, petroleum tax, vehicle license fees collected by the Commonwealth. In 2015, the sitting Governor issued Executive Order 2015-046, pursuant to which the Commonwealth began retaining these revenues. To ensure HTA had enough resources to fund necessary maintenance and capital expenditures to keep Puerto Rico's transportation system operational, the Commonwealth started making two new, main appropriations: a) a CapEx appropriation, designed to help HTA advance strategic infrastructure priorities, and b) a general unrestricted transfer, designed to help HTA fund its non-toll road operations. The existence of these appropriations is subject to revision, in line with the broader priorities of the Commonwealth. The Commonwealth is unable to fund larger or additional appropriations to HTA (or re-establish appropriations of the retained tax revenues discussed above) given its own fiscal challenges, as set forth in the Commonwealth's certified Fiscal Plan.

3.2) Relationship of HTA with the Financial Oversight and Management Board (FOMB)

In 2016, the US Congress passed the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA). This Act created a new government entity, the Financial Oversight and Management Board (FOMB).

In May 2017, the FOMB filed a petition for relief under Title III of PROMESA in accordance with the requirements of section 302 of PROMESA for the purpose of adjusting its debts. The FOMB has determined that a successful restructuring of HTA's debts under a plan of adjustment and the viability of HTA going forward in accordance

with the mandates of PROMESA will require HTA to undertake a series of initiatives (e.g., revenue enhancements, cost savings) that promote its fiscal sustainability, enhances quality of life, and promotes economic growth through a reliable and accessible transportation system with professional and transparent governance. These initiatives are outlined as fiscal measures in HTA's Fiscal Plan, which is updated at the end of every Fiscal Year. These updates, including the updates reflected in this Fiscal Plan, reflect new macroeconomic, policy, and technological developments and are certified by the FOMB after appropriate revisions are incorporated. The FOMB is responsible for monitoring progress of this Plan on a monthly basis by reviewing a series of reports that are submitted by HTA. The FOMB is also responsible for helping improve HTA's contract management practices through its contract review policy established in accordance with section 204(b)(2) of PROMESA. The FOMB reviews contracts with third-parties, ensuring they promote market competition, are consistent with the Certified Fiscal Plan and Certified Budget, and apply industry best practices.

3.3) Overview of Relationship with Federal Highways Authority

To fulfill its responsibilities as a transportation authority, HTA works closely with the Federal Highways Authority (FHWA). HTA receives an annual allocation of approximately \$139M from FHWA to execute capital projects. These capital projects include, but are not limited to, improving pavement, repairing and rebuilding bridges, and optimizing traffic lights and other signals. This allocation is included in Federal Legislation and periodically revised to catch up with inflation and occasionally increased to allow HTA to execute backlogged capital projects or Emergency Relief (ER) projects.

The Federal Highway Programs are "administered by HTA and assisted by FHWA." FHWA's relation with HTA is described in a "Stewardship and Oversight Agreement." FHWA supports HTA carry out highway construction when HTA's resources are limited due to unforeseen circumstances. For example, in the aftermath of Hurricane Maria, the Eastern Federal Lands (EFL) division of FHWA took over several ER projects to accelerate the recovery of the Island. HTA has signed two Memorandums of Agreement (MOA) with EFL (overview included in Appendix B). The first MOA, titled "Construction Engineering and Inspection Services for Highway and Bridge Projects", is for EFL and EFL consultant staff to assist HTA in monitoring construction contractor performance and ensuring proper construction standards are adhered to on HTA delivered construction contracts. EFL employees and consultants made recommendations to HTA regarding the suitability of completed work and contractor compliance with Contracts. The second MOA, titled "Engineering and Construction Services for Bridge, Traffic Signage and Safety Improvements, and Landslide Projects", is for EFL to deliver the management, and provide design and construction engineering services of ER work for improvements related to damages caused by Hurricane Maria. The projects have been delayed due to the difficulties HTA and their consultants have experienced in completing and delivering the final designs, environmental permitting, utility coordination, and ROW acquisition to EFL. These issues combined with the magnitude of the size of the program have prevented the projects to move forward at a steady pace.

3.4) Memorandum of Understanding with Federal Highways Authority

To maintain its eligibility for designated federal highway construction funding, the Governor of Puerto Rico signed a Memorandum of Understanding (MOU) with FHWA on February 29, 2016. The MOU was required to maintain eligibility for designated federal highway construction funding in the face of persistent performance challenges, including a growing backlog of inactive obligations. This MOU specifies that HTA must undertake a series of improvements in the following areas:

- **Federal Billing Procedures:** The MOU requires HTA to pay contractors with Electronic Funds Transfers (EFT) no more than 40 days after it receives their invoices. HTA must also track the status of payments in an electronic method that is acceptable and accessible to FHWA. As of May 2020, HTA has established a procedure to pay contractors with EFTs. HTA Contractors report that payments have improved. Some progress has been made to accelerate payments in line with the requirements of the MOU, but the necessary cadence has not been met nor has HTA established a transparent tracking tool.
- **Toll Credits:** The MOU requires HTA had to identify the amount of toll credits available for its use and ensure its toll credit balance is in compliance with current FHWA guidance. The MOU also requires HTA to modify its processes for approving, tracking and reconciling toll credit usage. As of May 2020, HTA had fulfilled the first two requirements, but has not yet modified any toll credit related processes. HTA claims Toll Credit tracking will be improved with implementation of its new Financial systems.
- **Organizational Capacity:** The MOU requires HTA to develop a Request for Proposal (RFP) to procure a management consultant. The management consultant would help the Authority become a more efficient organization by improving its systems, procedures, and bylaws. As of May 2020, the required RFP has been issued and an initial strategy for organizational restructuring and operating procedure improvements has been developed. The implementation of this strategy is expected to last until FY23.
- **Project Delivery:** The MOU requires HTA to identify the reasons behind delays in obligated projects and submit a schedule of milestones that would accelerate federal aid allocations. The MOU also requires HTA to improve email communications, electronic project monitoring, and financial billing. As of May 2020, HTA has fulfilled the requirements to accelerate project obligations. The Authority has installed a new email communication system and has improved its information systems, including an upgrade to a series of modules related to Human Resources, Inventory, and Contract Management. HTA has not finished the renovation of its project management information system, which is expected to be completed in early FY22.

To not risk FHWA funding, HTA must take all steps necessary to build upon the progress it has already made. All the requirements of the MOU must be completed according to the timelines established by FHWA. Given that the implementation of the MOU is critical for the continuation of HTA's status as a federal grantee and for the uninterrupted

development of infrastructure in Puerto Rico, it will be monitored on a monthly basis by the FOMB. Furthermore, HTA must fulfill the FHWA reporting requirements (Exhibit 9):

Exhibit 9: FHWA reporting requirements

FHWA reporting requirements			
Measure area	Performance measures	FHWA reporting cadence	FOMB reporting cadence
PM1: Safety	<ul style="list-style-type: none"> Number of fatalities / serious injuries Fatalities / serious injuries per million vehicle miles traveled Number of non-motorized fatalities and non-motorized serious injuries 	<ul style="list-style-type: none"> Annual HSIP reporting with: <ul style="list-style-type: none"> Targets and how they support SHSP¹ Outcomes 	<ul style="list-style-type: none"> Annual
PM2: Pavement Condition	<ul style="list-style-type: none"> Percentage of pavements of the Interstate System in Good/Poor condition Percentage of pavements of the non-Interstate NHS in Good/Poor condition 	<ul style="list-style-type: none"> Annual, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance State and MPO reports USDOT report to congress 	<ul style="list-style-type: none"> Biennial
PM2: Bridge Condition	<ul style="list-style-type: none"> Percentage of pavements of the NHS System in Good/Poor condition 	<ul style="list-style-type: none"> State and MPO reports USDOT report to congress 	
PM3: System Performance	<ul style="list-style-type: none"> Interstate/Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable 	<ul style="list-style-type: none"> Biennial, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance State and MPO reports on performance USDOT report to congress 	<ul style="list-style-type: none"> Biennial
PM3: Freight Movement	<ul style="list-style-type: none"> Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index 	<ul style="list-style-type: none"> State and MPO reports on performance USDOT report to congress 	
PM3: Traffic Congestion	<ul style="list-style-type: none"> Peak Hour Excessive Delay (PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel 		

3.5) Overview of Relationship with the Federal Transit Administration

Since its construction, HTA has assumed the ownership and operation of Tren Urbano (Tren Urbano), San Juan's metro line. To support the operations of Tren Urbano, HTA receives an annual operational allocation of approximately \$20M from the Federal Transit Administration (FTA). This amount is occasionally supplemented by one-off grants that help HTA perform capacity or efficiency improvements (e.g., installation of a new communications system) and transit-related ER projects (e.g., vehicle repair).

Despite support from FTA, HTA has not been able to transform the Tren Urbano into an efficient transit system capable of serving the needs of the citizens of the San Juan metropolitan area. Even though Tren Urbano was initially projected to attain a monthly ridership of approximately 3.4 million passengers per month by 2010,²¹ it currently has a ridership of only approximately 0.45 million passengers per month.

²¹ Review of the Tren Urbano Finance Plan, US General Accounting Office, Dated 03/31/2000, p.2.

CHAPTER 4: IMPACT OF HURRICANE MARIA, EARTHQUAKES & COVID-19

4.1) Overview of impact of natural catastrophes

Since FY18, Puerto Rico has been hit by a series of unforeseen emergencies: the most destructive hurricane that has passed through the Island in the past century; several earthquakes with a magnitude of more than 5; and a pandemic that has necessitated a practical shut down of economic activity that dramatically reduced road utilization. All of these catastrophes have affected the operating revenues and the capital project delivery.

Exhibit 10: Sources & Uses of Emergency Funding

Funding Source	Emergency addressed											
	Hurricane Maria			2020 Earthquakes			COVID-19			Aggregate		
	Total	Spent To Date	Future Spend	Total	Spent To Date	Future Spend	Total	Spent To Date	Future Spend	Total	Spent To Date	Future Spend
FHWA	230	102	128	28	5	23	-	-	-	258	107	151
EFL	385	20	365	-	-	-	-	-	-	385	20	365
PR CW cost share	1	1	-	12	-	12	1	1	-	14	2	12
FEMA	4	-	4	-	-	-	-	-	-	4	-	4
FTA	164	-	164	-	-	-	20	-	20	184	-	184
Total	783	123	660	40	5	35	21	1	20	844	129	715

In order to address the impact of these catastrophes, HTA has received approximately \$129M in emergency funding as of May 2020 and expects to receive an additional \$715M in emergency funding from FY21 to FY25, as seen in Exhibit 10 below. Out of that \$844M in total funding, \$40M are set aside for earthquake relief, \$21M are set aside for the recovery of operating losses related to COVID-19 and \$783M are set aside for projects associated with repairing the damage of Hurricane Maria

4.2) Impact of Hurricane Maria on HTA Activities

Assessment of Damage: Hurricane Maria, which hit Puerto Rico in September 2017, had a substantial adverse effect on the transportation infrastructure of the Island. Roads and bridges were damaged and several stations of Tren Urbano were rendered inoperable, causing Tren Urbano to stop running for a period of 3 months. Tren Urbano services were restored to 13 out of 16 stations in December 2017, while the remaining 3 stations were repaired and reopened by May 2018. At the same time, HTA's highway assets saw a damage of \$619M and transit assets saw a damage of \$164M, based on initial damage

inspection reports by HTA. Transit asset repairs will be fully financed by FTA funds, while highway asset repairs will be financed by a mix of FHWA (\$615M), FEMA (\$4M) and Commonwealth cost share (\$1M) funds. 63% of FHWA funded projects (\$385M) will be carried out by the Eastern Federal Lands (EFL) division of FHWA and the remaining 37% (\$230M) will be carried out by HTA itself.

HTA's operating revenues were also significantly affected. Fine collection, which had already been lagging due to deficiencies in its collections system, was suspended due to the adverse impact of the Hurricane on the electronic tolling system. Toll road traffic was depressed by approximately 10% for one Fiscal Year before returning to its ordinary levels. Tren Urbano ridership also fell by approximately 30%²² and has not been able to recover to its pre-Hurricane levels as of May 2020.

Status of Recovery Effort: HTA has spent \$103M over FY19 and FY20 in highway recovery projects (e.g., repairing and rebuilding bridges and improvement payment) and \$0M in transit construction projects (e.g., fare collection system replacement, track repair) related to emergency relief. Out of these expenses, \$102M were funded by FHWA and \$1M was funded by Commonwealth cost share funds. At the same time, EFL has spent another \$20M of FHWA funds in highway construction projects. Over the next 5 years (FY21-25), HTA expects to spend \$132M in highway recovery projects, which will be funded by \$128M of FHWA funds and \$4M of FEMA funds. HTA also expects to spend \$164M in transit construction projects, which will be exclusively funded by FTA funds. EFL will complement HTA's relief activities by spending another \$360M of FHWA funds in highway construction projects.

Toll fare receipts have returned to their previous levels of approximately \$135M in FY19, since toll road traffic in Puerto Rico fully recovered from the impact of the Hurricane.²³ Toll fine receipts, however, still remain at \$0 due to a delay in the restoration of fine collection. In addition, transit fare receipts pre-COVID are still below their FY17 levels.

4.3) Impact of 2020 Earthquakes on HTA activities

On January 7, 2020, an earthquake with a magnitude of 6.4 caused significant damages throughout Puerto Rico's south and southwestern region, causing the federal government to classify several municipalities as major disaster areas.²⁴

While its operating revenues were not significantly affected,²⁵ HTA has incurred \$5M in emergency relief costs in FY20, which were fully covered by FHWA funds. Moreover, HTA estimates it will need to incur an additional \$35M in highway emergency relief costs in

²² HTA Tren Urbano Ridership Data, comparing 12 months before Hurricane Maria with 12 months after Tren Urbano operation was restored.

²³ Number does not account for payments of HTA to the concessionaires of PR-5, PR-17, PR-22 and PR-199.

²⁴ Municipalities of Ponce, Guánica, Guayanilla, Yauco, Utuado, Peñuelas, Adjuntas, Cabo Rojo, Corozal, Jayuya, Lajas, Lares, Maricao, San German, San Sebastian, and Villalba.

²⁵ Toll proceeds in the month of January from PR-52 were reduced by approximately \$1.3M due to a temporary reduction in traffic from approximately 6.4 million vehicles to approximately 5.1 million vehicles. 6.4M vehicles is the average of PR-52 traffic during the first half of FY20 (Jul. – Dec.). Calculation of reduced revenues assumes an average toll price of \$1.02 in PR-52, in line with available transactions and revenues data.

FY21 and FY22. Approximately \$23M of these projects are expected to be covered by FHWA funds, while approximately \$12M will be covered by Commonwealth cost share funds. Given that damage assessments are still at a preliminary stage, the amount of expenses that will be incurred by HTA might have to be revised.

4.4) Impact of COVID-19 on HTA activities

Current impact

The COVID-19 pandemic has had a profound impact on HTA's capital delivery as well as operating revenues. It has forced the Authority to suspend construction activities for a period of two months. Delivery timelines have also been extended from FY20 to FY21 for approximately \$141M worth of projects. Toll road traffic has been reduced on average by 66%, while toll violations have also increased, causing an estimated 80% decline in toll revenues, down from approximately \$2M per week in February to approximately \$0.4M per week in April.

Operating Revenues: Since March 16, 2020, toll collections, transit fare collections, and other income receipts have experienced significant reductions, causing HTA to further underperform its revenue targets for FY20, which it was already expected to miss given the lack of implementation of the revenue enhancement initiatives outlined in its 2019 Fiscal Plan. As a result, the Authority depleted approximately \$17M of its operational reserve and had to request a reallocation of approximately \$16M from its capital accounts to its operating accounts. This was done to cover operational costs, at the expense of the capital investment needed for the road network of the Island. The reallocation request could have been avoided had HTA not neglected the collection of fines and had increased fares, in line with Fiscal Plan requirements. Instead, HTA is forced to sacrifice the medium and long-term quality of Puerto Rico's roads to offset its failure to implement planned fiscal measures and has found itself financially unprepared for crises like COVID-19. Continued failure to implement fiscal measures and collect steady revenue streams will further worsen HTA's financial position and prevent needed highway repairs from taking place, lowering quality of life of the island and undermining the Island's competitiveness.

Projected impact

Capital expenses and delivery: COVID-19 is expected to cause extensive delays in capital project delivery, pushing approximately \$53M of projects that were originally planned for FY21-FY22 to FY23-25. Moreover, COVID-19 will force HTA to deal with a series of challenges related to productivity, supply chain sustainability, and employee safety.

Overcoming the challenges posed by COVID-19 requires HTA making progress across the following areas over the upcoming fiscal years:

- Secure an adequate amount of Personal Protective Equipment (PPE) to make employees of the Authority less vulnerable to the spread of the virus
- Set up other safeguarding practices that could further reduce the risk of virus transmission among employees (e.g., place limits on tool sharing, implement temperature screening and sanitizing at the onset of work shifts, install additional ventilation equipment in closed spaces)
- Establish a protocol for social distancing practices during construction and for the maintenance of a labor density that is in accordance with all applicable regulations (e.g., limit large group meetings, stagger work breaks, spread out shifts whenever possible)
- Adopt digital tools that could capture and communicate field data in a way that enables part of the engineering workforce to continue working from home
- Mitigate the impact of supply chain disruptions that might cause delay or even cancel the delivery of certain construction materials (e.g., map out existing supply chains, identify potential bottlenecks, explore alternative material sources or shipment methods)
- Mitigate the impact of a potential moratorium in the services of contractors and suppliers due to bankruptcies or furloughs (e.g., identify high-risk contractors and preemptively prepare a contingency plan for the tasks currently assigned to them)
- Restore construction equipment to working status after months of inactivity
- Prevent labor productivity losses and personnel absenteeism that could be caused by low personnel morale and constrained logistics

Dealing with these challenges may result in HTA having to incur substantial cost overruns. Given that the extent of these overruns cannot be accurately estimated, cost adjustments related to COVID-19 have not been included in the 2020 Fiscal Plan. If HTA ends up incurring any cost overruns, it would have to apply for special funding from the Commonwealth and demonstrate that the overruns are the result of the COVID-19 pandemic. Any funds the Commonwealth evaluates as meeting the above criteria could be reimbursed with the \$2.2B allocated by the Federal Government to Puerto Rico for eligible COVID-related unbudgeted costs incurred as part of the Coronavirus Aid, Relief, and Economic Security (“CARES”) Act.

Operating revenues: After the gradual softening of social distancing measures, all categories of operating revenues are projected to return to their pre-COVID baseline levels over a period of 9 months, assuming that there will not be a second virus outbreak in the fall of FY21. This slow recovery is expected to reduce HTA’s revenues by approximately \$40M in FY21.²⁶ HTA will be able to offset some of these losses with the transit funding received from the CARES Act. This funding, provided by FTA, will help the Authority cover operational costs associated with Tren Urbano and its feeder buses.

²⁶ More specifically, it is expected to reduce toll fare revenues by ~\$34M, toll fine revenues by ~\$2M, transit fare revenues by ~\$2M and other income receipts by ~\$2M.

The projected CARES Act transit funding is approximately \$20M, reducing the total negative impact of COVID-19 on HTA's operating revenues from approximately \$40M to approximately \$20M.

PART III – INFRASTRUCTURE AGENDA

HTA's infrastructure agenda priority must be to keep its assets in a State of Good Repair (Chapter 5). HTA has historically been unable to achieve a SOGR because of its failure to execute its Capital Improvement Program (CIP)²⁷ or prioritize critical maintenance projects (Chapter 6). Any projects beyond meeting a SOGR must be subject to stringent evaluation criteria (Chapter 7).

This infrastructure agenda is at the heart of the entire Fiscal Plan. The MOUs signed with FHWA and other federal agencies detailed in Chapter 2 were primarily about its capacity to execute capital projects. The Key Performance Indicators (KPIs) in Chapter 3 largely revolve around HTA successfully meeting its SOGR repair goals. The destruction brought by recent natural disasters detailed in Chapter 4 makes bringing Puerto Rico's roads to a SOGR even more important. The fiscal measures detailed in Chapters 11 and 12 indicate how HTA will raise and free up critical funds to allow for the maintenance of their network. Finally Chapter 13 details how HTA will most efficiently execute this wide-ranging capital plan.

CHAPTER 5: BRINGING ROADS TO STATE OF GOOD REPAIR (SOGR)

Currently, Puerto Rico is ranked 51 out of 52 for quality of roads in the United States. Puerto Rico's poor road quality imposes economic costs on its citizens, decreases safety, and increases the overall cost of road maintenance.²⁸ Well-maintained roads reduce vehicle operating costs, bolster quality of life for citizens who commute daily, and make the Island more competitive both for tourism and for major industries that move large amounts of goods. This makes improving the condition of Puerto Rico's roads a key part of the broader structural reforms the Commonwealth is undertaking to grow Puerto Rico's economy, attract investors, increase jobs, ease doing business, and otherwise promote economic development. Having a more resilient infrastructure network also allows Puerto Rico to be better prepared for future natural disasters.

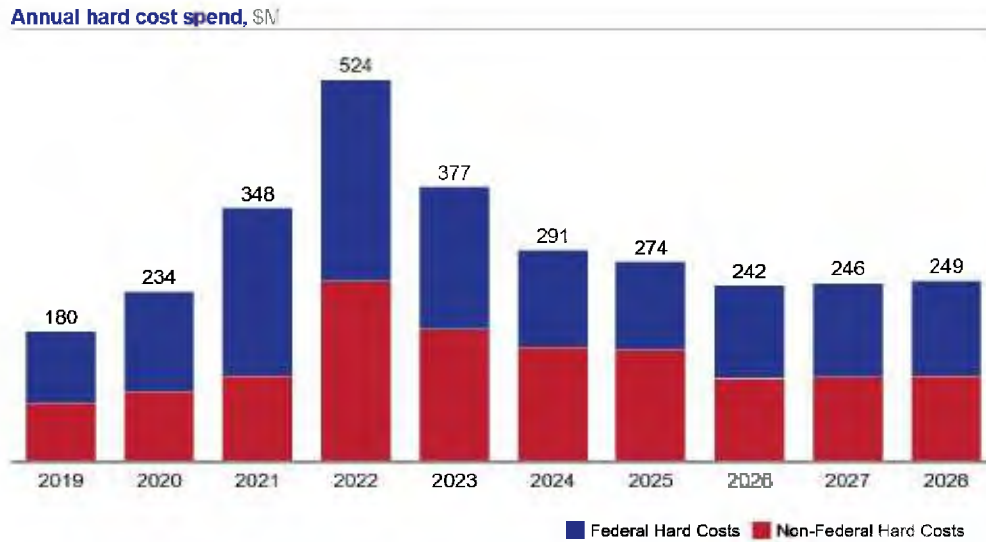
With a projected decline in population (reduction of ~800,000 people by 2049) and a declining gross national product (GNP) (7% decline by 2049), a focus on SOGR, instead of enhancements to road networks to account for increased traffic levels, promotes an effective use of funding and optimizes existing transportation assets. In an era of decreasing economic activity, population, and travel demand, the Authority needs to prioritize maintaining its existing roads, highways, and bridges, instead of building out additional capacity. Therefore, the primary goal of HTA's capital program must be to keep the Island's roads, highways, and bridges in a State of Good Repair (SOGR). According to

²⁷ CIP: Plan which identifies necessary capital projects and provides a schedule for their execution as well as for their financing

²⁸ Cost of maintaining the system frequently measured as "Lifetime Cost of Ownership," or the total cost of repairs for maintenance of a specific section of a highway or road. It is expected that letting roads deteriorate increases maintenance repairs in the long-run, leading to higher total costs than if they would have been kept at SOGR.

third party estimates, HTA would need to spend approximately \$2.6 billion in hard construction costs over a 10-year period to achieve a SOGR (Exhibit 11).²⁹

Exhibit 11: Annual hard cost spend to get to State of Good Repair (\$M), FY19-FY28



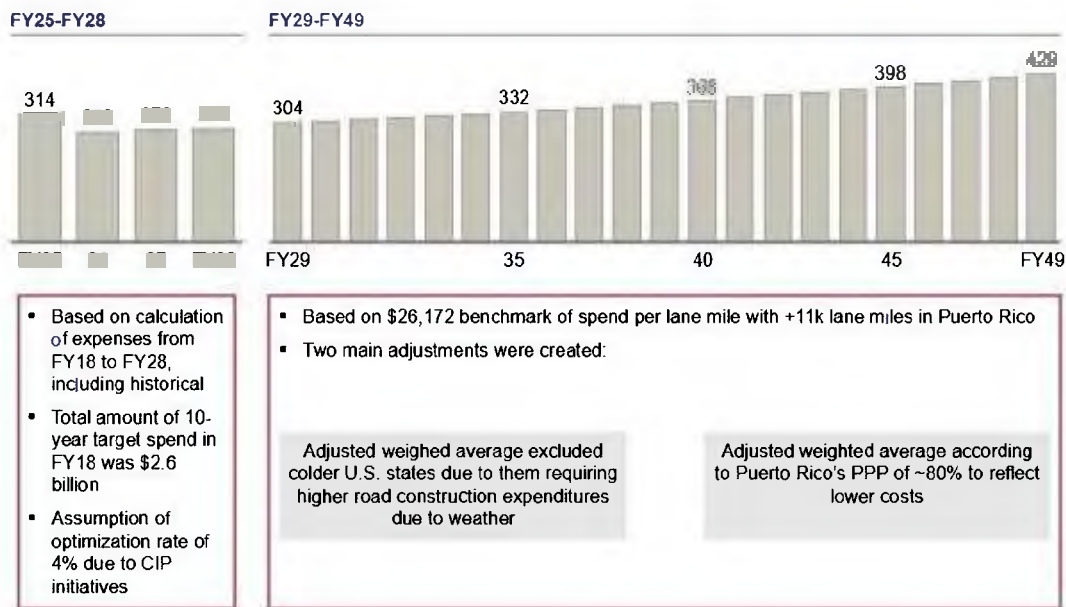
Beyond FY28 and through FY49, HTA would need to spend an estimated total of \$7.6B³⁰ in construction hard and soft costs, or an average of \$357M per year, in order to maintain its assets in a SOGR.³¹ See Exhibit 11 for additional detail.

²⁹ PRHTA 2018-2028 Capital Improvement Program Validation Report, p. 63. Although these estimates are from FY18, they provide a valid reference point for estimating long-term SOGR costs given the long-term lifecycles of the assets.

³⁰ Includes hard and soft costs of both federal and non-federal construction.

³¹ To develop these capital investment estimates, the cost to maintain each line mile of HTA's network was benchmarked against peer state transportation systems, and then adjusted by local factors.

Exhibit 12: Overview of Capital Investment Projections Methodology (\$M)



Includes local construction, federal and non-federal construction soft and hard costs 2 Calculation to bring roads of Puerto Rico to state of good repair calculated by CMA 3 Obtained from 23rd Annual Highway Report from the Reason Institute

CHAPTER 6: CURRENT CAPITAL DELIVERY PROCESS AND OUTCOMES

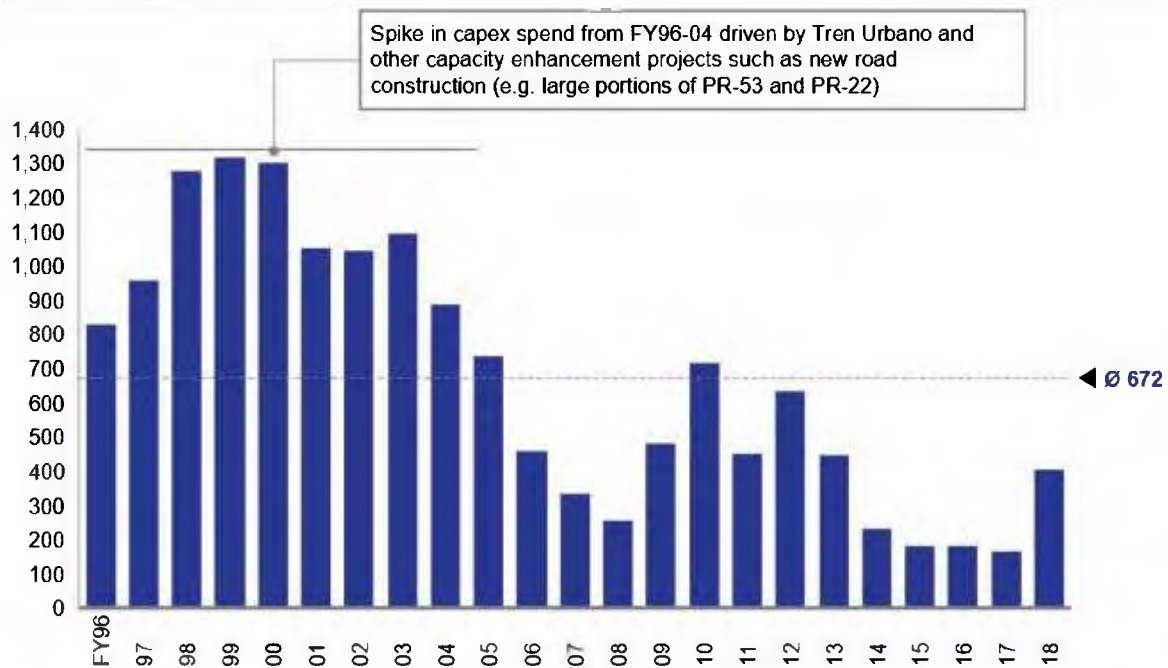
Over the years, Puerto Rico's transportation system has significantly deteriorated due to underinvestment, and the lack of a clear process for delivering capital programs.

Over the last two decades, HTA's capacity to deliver capital projects has declined extensively. From FY1996 to FY2004, HTA averaged \$661M³² in total capital disbursements per year, excluding Tren Urbano investments. By FY07, however, as the recession hit Puerto Rico, capital spending decreased to below \$400M annually, falling to \$257M in FY08. During the years prior to Hurricane María, spending continued to decline, reaching a low-point of \$168M in FY17.

³² In 2018 \$USD.

Exhibit 13: Historical HTA Infrastructure Spend, FY96-FY18³³

Total annual capex spend¹, \$M Adjusted to 2018 USD



¹ Total CIP expenses. Includes Transit CIP.

SOURCE: PRHTA Data

In FY19, HTA disbursed only 29% of its budgeted capital expenditures.³⁴ This inability to spend was driven by difficulty in finding construction labor (due to the number of projects on the island after Hurricane Maria) as well as operational inefficiencies and procurement delays. Because of this failure to deliver on its capital program, guidelines were set for how HTA would choose and deliver capital projects, to ensure that HTA is able to spend its proposed program in a given year.

For FY20, HTA set goals to increase planned spend and ensure that all planned spend was indeed spent. Between Q1 and Q2 of FY20, HTA disbursements were tracking to 90%+ of targets due to operational improvements, including paying contractors in a timely manner, and prioritizing projects effectively. However, after multiple earthquakes and the arrival of the COVID-19 pandemic, HTA was unable to meet its targets for the remainder of FY20.

To ensure HTA focuses both on building the right projects, and achieving target spending levels in a given year, HTA follows a structured CIP update process. The CIP update process is designed to prioritize which projects should be delivered in a given year. It does this in a data-based way, with a goal of first doing projects that have the greatest impact.

³³ Includes Total capex spend which is non-federal and federal construction hard and soft costs as well as Transit CIP and capital ROW payments.

³⁴ HTA B2A reporting

For example, the process helps HTA select those projects that do the most to increase safety or improve travel time outcomes, for the largest amount of people. In addition to this process, Chapter 13, lays out a number of additional measures HTA must take to further increase the efficiency of its project delivery.

CHAPTER 7: DISCRETIONARY FUNDS FOR STRATEGIC PROJECTS

In an effort to provide for capital expenditures and investments necessary to promote economic growth, HTA must consider additional funding sources for non-SOGR projects, including discretionary grants, new revenue opportunities, or public-private partnerships. HTA should prioritize discretionary federal grants such as Better Utilizing Investments to Leverage Development (BUILD) or Infrastructure for Rebuilding America (INFRA) grants for highway projects and Capital Investment Grants (CIG) for transit projects.³⁵ Securing Puerto Rico's fair share of these funds on an annual basis (estimated at 1% of the national program), would result in approximately \$1.5B of funding available for strategically important non-SOGR projects over 30 years. The 2020 Certified Fiscal Plan includes annual investments for HTA to build a grant management team to ensure that Puerto Rico is competitive in federal discretionary funding decisions.

If HTA is not able to secure additional sources of funding the financial feasibility of investing in strategic projects not aimed at achieving a SOGR is very low. Projects that do not contribute to the system's SOGR that are expected to be funded with CW transfers must be subject to stringent evaluation criteria using the metrics set forth in Chapter 13: "Optimizing Capital Expenses."

³⁵ More information on BUILD grants can be found here: <https://www.transportation.gov/BUILDgrants>, more information on INFRA grants can be found here: <https://www.transportation.gov/buildamerica/financing/infra-grants/infrastructure-rebuilding-america>, more information on CIG grants can be found here: <https://www.transit.dot.gov/CIG>

PART IV – CURRENT BASELINE FINANCIAL PROJECTIONS

In the absence of any fiscal measures and without a Commonwealth transfer beyond its regular CapEx appropriation, HTA projects a cumulative deficit of approximately \$6.4B over a 30-year period (see Exhibit 14). This includes a capital deficit of approximately \$4.3B, driven by HTA's investments in non-toll roads, and an operating deficit of approximately \$2.2B, driven by rising operating expenses and underperforming revenues that don't keep pace with growing costs.

The level of the cumulative deficit emphasizes the need for revenue enhancements and cost savings to ensure HTA's fiscal sustainability. Without these, the level of the Authority's dependence on cash transfers from the Commonwealth is untenable. In order to avoid such an outcome, HTA must implement the fiscal measures described in more detail in Part V.

Exhibit 14: Baseline financial performance of HTA³⁶

Revenues / Expenses, \$M	FY21	FY22	FY23	FY24	FY25	FY 21-25	FY 21-49
Operating revenues (HTA)	144	156	154	154	154	760	4,558
Operating revenues (FTA)	20	20	20	20	20	100	580
Operating expenses	(266)	(257)	(250)	(249)	(250)	(1,272)	(7,328)
Capital revenues (Federal)	341	455	288	202	161	1,446	5,468
Capital revenues (CW)	258	146	54	54	55	568	2,185
Capital expenses	(511)	(799)	(551)	(398)	(353)	(2,611)	(11,906)

The exact breakdown of different revenue and expense categories over time, in the absence of any fiscal measures, can be seen in Exhibit 15 below.

³⁶ Parentheses indicate source of funds: (HTA) indicates HTA's own revenues from fares, fines and other activities, while (FTA) indicates FTA operational subsidies. (Federal) includes FHWA and FTA funding, while (CW) includes the CapEx appropriations given from the Puerto Rico Commonwealth to HTA.

Exhibit 15: Baseline performance of HTA

Item, \$M	FY21	FY22	FY23	FY24	FY25	FY21-25	FY21-49
Toll fares	121	119	117	117	117	592	3,551
Toll fines	9	23	23	23	23	101	623
Other income	6	6	6	6	6	30	177
Transit fares	8	7	7	7	8	38	206
Operating FTA funds	20	20	20	20	20	100	580
	64	175	174				
TU Operation & Maintenance	(73)	(69)	(71)	(69)	(83)	(365)	(2,491)
Toll Highways Administration & Maintenance	(42)	(42)	(42)	(43)	(43)	(212)	(1,403)
Salaries & Related Benefits	(46)	(44)	(42)	(40)	(38)	(209)	(1,232)
Pensions	(37)	(37)	(37)	(36)	(36)	(183)	(838)
Other Operating Expenses	(29)	(29)	(27)	(27)	(17)	(128)	(614)
ROW payments	(17)	(16)	(11)	(13)	(13)	(70)	(70)
Integrated Transportation System	(12)	(10)	(11)	(11)	(11)	(11)	(373)
Litigation Reserve	(9)	(9)	(9)	(9)	(9)	(43)	(247)
Other Program Expenses	(2)			(2)			
	(266)	(257)	(250)	(249)	(50)	(1,272)	(7,32)
Total operating balance	(101)	(81)	(77)	(75)	(77)	(412)	(2,190)

Item, \$M	FY21	FY22	FY23	FY24			
Regular FHWA funds	252	316	226	160			
Regular CW CapEx appropriation	59	53	54	54	55	275	1,892
Non-regular CW CapEx funds¹	199	93	-	-	-	292	292
Federal Emergency Funds	24	83	31	16	-	154	154
Non-regular Capital FTA funds	65	53	30			197	197
					216	2,013	7,653
Highway construction hard costs	(352)	(536)	(382)			(1,837)	(9,097)
Highway construction soft costs	(34)	(74)	(55)	(48)	(41)	(252)	(1,215)
Federal Emergency Repair Costs	(30)	(89)	(31)	(16)	-	(166)	(166)
Transit CIP	(67)	(55)	(32)	(28)	(23)	(207)	(887)
Toll Optimization CIP	(15)	(31)	(37)	-	-	(83)	(83)
Local Construction	(10)	(10)	(10)	(10)	(10)	(50)	(344)
ROW payments	(3)	(3)	(3)	(3)	(3)	(17)	(113)

¹ Including a rollover of ~\$120M

CHAPTER 8: REVENUE BASELINE

8.1) Operating revenue baseline

HTA has five core sources of operating revenues: (1) toll fares; (2) toll fines; (3) FTA funds (4) transit fares; and (5) other income. The projected revenues in the Baseline Scenario³⁷ from each source over the period of the 2020 Certified Fiscal Plan is seen in Exhibit 16.

Exhibit 16: Operating revenues by source, FY21-49

Revenue Source, \$M	FY21	FY22	FY23	FY24	FY25	FY21-25	FY21-49
Toll fares	121	119	117	117	117	592	3,551
Toll fines	9	23	23	23	23	101	623
Transit fares	8	8	7	7	7	38	208
Operating FTA funds	20	20	20	20	20	100	580
Other income	6	8	6	6	6	30	177
Total operating revenues	164	176	174	174	174	860	5,138

1. Toll revenue baseline: Toll revenues make up 74% of HTA's operating revenues and therefore are the most significant driver of the Authority's revenue and fiscal sustainability.³⁸ Toll fares for HTA-owned toll roads have remained flat for 15 years, with no adjustment, even for inflation, since 2005. Baseline toll revenues were estimated using FY19 actual toll revenues and toll transactions. They were then increased or decreased each year based on the Commonwealth's Real GNP projections in the 2020 Certified Commonwealth Fiscal Plan. The baseline does not include measures to increase toll rates (shown separately in Chapter 11.1). Baseline toll revenues incorporate the effect of changes in the distribution of revenues in roads that are managed and operated by concessionaires (e.g., Teodoro Moscoso Bridge). Projected toll revenues fall to \$117M per year by FY25 due to projected declines in traffic volumes, increase to \$131M per year by FY30, and ultimately decline to \$119M per year by FY49 in the Baseline Scenario.

2. Toll fine baseline: Fines imposed on drivers who pass through toll plazas without paying represent 6% of the Authority's operating revenues.³⁹ The toll fine collection rate

³⁷ Baseline scenario: Scenario assuming that HTA will implement no fiscal measures over the period of this Fiscal Plan

³⁸ Based on projected FY21 data, excluding the effect of COVID-19 (see chapter 4 for a discussion on the impact of COVID-19).

³⁹ Ibid.

became a challenge with the introduction of Open Road Tolling (ORT)⁴⁰ in Q1 FY17. Hurricane María further impacted the electronic system that was responsible for issuing fines, resulting in a series of reliability failures. As a result, fine collection was suspended based on an Executive Order issued by the Governor of Puerto Rico in September 2018. This suspension was originally planned to end in January 2020 with the installation of a new toll operating system. However, as of Q4 FY20, the new toll operating system is not yet operational. Resuming toll fine collection in Q1 FY21 would generate \$110M within 5 years and \$645M over the entire period of this Fiscal Plan.⁴¹

3. Operating funds from FTA: HTA receives approximately \$20M annually in operating funds from FTA for regular preventive maintenance activities for Tren Urbano. Given that there is no law or regulation that mandates the increase of these grants in line with inflation, the baseline assumes that these grants will remain flat at \$20M per year through FY49.

4. Transit fares: Fare revenues of Tren Urbano and of its feeder buses are projected to move in line with the Real GNP projections in the 2020 Certified Commonwealth Fiscal Plan, thus slightly declining over the period of this Fiscal Plan. When combined with inflation-based increases across most transit operation costs (e.g., labor, electricity, insurance), declining revenues increase annual deficits to approximately \$99M for Tren Urbano and approximately \$12M for its feeder buses by FY49.

5. Other revenue baseline: HTA collects 4% of its total operating income, or approximately \$6.1M annually, from sources other than tolls and transit fares.⁴² The Authority earns, on average: (a) approximately \$1.2M from property rentals; (b) approximately \$2.2M from interest accrued on its bank accounts; (c) approximately \$0.2M from activities related to Tren Urbano operations (e.g., Tren Urbano station space rentals, vending machines); and (d) approximately \$2.5M from services related to its highway operations, such as roadside assistance and truck weighing. For the revenue baseline, rent-related revenues are expected to move in line with inflation through FY49, while other types of income are projected to remain flat.

8.2) Capital contribution baseline

HTA has two core sources of capital contributions: (1) Regular FHWA funds; and (2) regular Commonwealth Capital Expenditure appropriation. HTA is also scheduled to receive the following types of *ad hoc* funding over the next five years: (3) Non-regular Commonwealth CapEx funds; (4) Federal Emergency Funds; and (5) Non-regular Capital FTA funds. The projected revenues from each source over the period of this Fiscal Plan are illustrated in Exhibit 17 below.

⁴⁰ Open Road Tolling: system of cashless collection of tolls that does not require physical toll booths; Illustrative Diagram - <http://c.oobg.com/metro/2013/12/07/open-road-tolling-bound-for-mass/ogjKCOCUjFLB44NM1ql8FO/story.html>

⁴¹ Assumes 1% of toll transactions would become fines and that 60% of all fines would be collected, in line with HTA's historical performance.

⁴² Based on projected FY21 data, excluding the effect of COVID-19 (see chapter 4 for a discussion on the impact of COVID-19).

Exhibit 17: Capital contributions by source, FY21-49

Revenue Source, \$M	FY21	FY22	FY23	FY24	FY25	FY21- 25	FY21- 49
Regular FHWA funds	252	318	226	160	139	1,095	5,117
Regular CW CapEx appropriation	59	53	54	54	55	275	1,892
Non-regular CW CapEx funds	199	93	-	-	-	292	292
Federal Emergency funds	24	83	31	16	-	154	154
Non-regular Capital FTA funds	65	53	30	26	21	197	197
Total capital contributions	600	601	341	256	216	2,013	7,653

1. Regular FHWA Funds: HTA's regular allocation of FHWA funds for highway construction projects is approximately \$139M per year as provided in the Fixing America's Surface Transportation Act or "FAST Act." HTA's allocation will exceed approximately \$139M from FY21-FY24 assuming the Authority delivers on a backlog of projects that have been rolled over from previous years. From FY25-FY49, FHWA funding is adjusted for inflation and projected based on the current allocation level of \$139M.

2. Regular Commonwealth CapEx Appropriation: The Commonwealth provides an annual CapEx appropriation to HTA to support its objectives. This appropriation is approximately \$59M in FY21 due to the addition of new funds that will address a backlog of projects from prior years. In FY22, the appropriation is approximately \$53M and projected to move in line with the inflation through FY49, as specified in the 2020 Commonwealth Fiscal Plan.

3. Non-regular Commonwealth CapEx Funds: Since 2018, HTA has been responsible for the execution of the Abriendo Caminos program, designed to support pavement reconstruction and highway maintenance. The 3rd and the 4th phases of this program are expected to be completed by FY23. Approximately \$160M of funding is provided for this program in FY21 (~\$93M) and FY22 (~\$87M). Over these years, HTA is also expected to receive ~\$12M of cost share funds from the Commonwealth (~\$6M in FY21 and ~\$6M in FY22) for emergency relief projects related to the earthquakes of early 2020, as previously outlined in Exhibit 8. These sources of funding will complement the ~\$120M of CapEx funds that HTA will roll over from FY20 for projects underway, but not yet completed.

4. Federal Emergency Funds: HTA is projected to be reimbursed approximately \$154M over FY21-24 for construction projects to repair the damages caused in the island's highway network by Hurricane Maria in 2017 and by earthquakes in 2020. Expenses related to Hurricane Maria, approximately \$131M, will be fully financed by federal capital contributions (approximately \$127M from FHWA and \$4M from FEMA) and do not

require any locally-funded match. This is in line with the Bipartisan Budget Act of 2018.⁴³ At the same time, expenses related to the seismic activity, approximately \$23M over FY21 and FY22, will be financed by emergency FHWA funds and will need to be matched by approximately \$12M of additional disbursements, which will be financed by cost share funds from the Commonwealth.

5. Non-regular Capital FTA Funds: From FY21-FY25, HTA is projected to receive approximately \$197M of capital funds to execute a series of capital improvements to Tren Urbano. Capital improvements include repairing damages caused by Hurricane Maria, replacing telecommunication systems, and installing a new fare collection system.

CHAPTER 9: EXPENSES BASELINE

9.1) Operating expense baseline

The operating expenses of HTA are distributed into the following categories: (1) Tren Urbano Operation and Maintenance; (2) Toll Highways Administration and Maintenance; (3) Salaries and Related Benefits; (4) Pensions; (5) Other Operating Expenses; (6) Right of Way (ROW) payments; (7) Integrated Transportation System (ITS); (8) Litigation Reserve; and (9) Other Program Expenses. The projected annual expenses for each category are shown in Exhibit 18.

Exhibit 18: Operating expenses by category, FY21-49

Expense category, \$M	FY21	FY22	FY23	FY24	FY25	FY21-25	FY21-49
Tren Urbano Operation & Maintenance	(73)	(69)	(71)	(69)	(83)	(365)	(2,491)
Toll Highways Administration & Maintenance	(42)	(42)	(42)	(43)	(43)	(212)	(1,403)
Salaries & Related Benefits	(46)	(44)	(42)	(40)	(38)	(209)	(1,232)
Pensions	(37)	(37)	(37)	(36)	(36)	(183)	(838)
Other Operating Expenses	(29)	(29)	(27)	(27)	(17)	(128)	(614)
ROW payments	(17)	(16)	(11)	(13)	(13)	(70)	(70)
Integrated Transportation System	(12)	(10)	(11)	(11)	(11)	(55)	(373)
Litigation Reserve	(9)	(9)	(9)	(9)	(9)	(43)	(247)
Other Program Expenses	(2)	(2)	(2)	(2)	(2)	(9)	(60)
Total operating expenses	(266)	(257)	(250)	(249)	(250)	(1,272)	(7,328)

⁴³ As specified in the 2019 Certified Fiscal Plan, p. 52; ~\$0.1M will be financed by state funds as an exception.

1. Tren Urbano Operation and Maintenance: Tren Urbano Operation and Maintenance is projected to account for over 29% of total operating expenses in FY21. Tren Urbano's operating contract represents 76% of this category for FY21. This operating contract primarily covers operation of trains, maintenance of track and facilities, fare collection, and electronic system management. The other largest line items within this expense category are electricity (approximately \$9 million) and insurance contracts (approximately \$9 million). After FY21, projections are based on per-year estimates consisting of contracted Tren Urbano base compensation and Puerto Rico's expected inflation. There is a small, irregular increase in FY25, mainly due to a one-off vehicle overhaul program proposed by HTA. After FY32, when the current contract with TU's private operator expires, main contract costs are assumed to increase in line with inflation.

2. Toll Highways Administration and Maintenance: Electronic Toll Collection (ETC) costs, which consist of commissions paid to the toll operator, make up the plurality (45% in FY20) of total toll highways administration and maintenance costs. ETC costs are estimated to be 13.9% of baseline toll fares. Starting in FY22, all other costs within this expense category are expected to grow in line with Puerto Rico's expected inflation rate, while ETC costs are projected as a percentage of baseline toll fares collections over each year.⁴⁴

3. Salaries and Related Benefits: From FY21-25, total salaries and related benefits are expected to be an average of approximately \$42 million per year (55% of which are associated with construction related payroll). These projected costs assume a hiring and salary freeze within FY21-FY25, and a natural attrition rate of 3% occurring every fiscal year up until FY25. After FY25, salaries and related benefits grow at Puerto Rico's expected inflation rate. Early Retirement costs reach zero by FY37 given that those who retired early will stop receiving payments then.⁴⁵ Medical Plan and Social Security costs are the highest cost categories within this operating expenditure line item, behind regular salary amounts. Social Security (6.2%), Medicare (1.5%), and Workers Compensation (4%) costs within this category were calculated as a percentage of base salary, including overtime and Christmas bonuses, based on historical costs.

4. Pensions: Pension costs are calculated on the basis of assumptions about the duration of expected retirement payments to current and past HTA employees. The baseline assumes no pension reductions or increases that would catch up with inflation. Hence, pension costs are projected to significantly fall over time.

5. Other Operating Expenses:⁴⁶ Other Operating Expenses include Professional Services (64% of the total category in FY21), which are expected to be higher in the next

⁴⁴Includes reparation and maintenance of highway, electricity, insurance, security services, reparation and maintenance of vehicles, maintenance and conservation of equipment, reparation and maintenance of buildings, equipment rentals, rent of buildings, miscellaneous equipment, cellphone and telephone service, travel expenses, computer hardware and software, merchant fees, and an "all other" category.

⁴⁵Costs related to early retirement do not increase with inflation.

⁴⁶Includes professional services, rent for buildings, electricity, security services, insurance, telephone and cellphone service, reparation and maintenance of vehicles, water, rental of equipment, maintenance and conservation of equipment, subscriptions, computer software, reparation and maintenance of buildings, postal services, cultural activities, travel costs, training, printing and materials, and any other category.

three years due to the costs associated with toll optimization and Title III-related expenses. Costs within this expense category are expected to begin leveling off from FY24 onward as Professional Service costs taper off and stabilize. These expenses then grow at Puerto Rico's projected inflation rate for the 30-year period.

6. Operational Right of Way (ROW) Payments: Operational Right of Way (ROW) Payments correspond to claims that have already been submitted to HTA and are expected to increase from approximately \$13 million in FY19 to a peak of approximately \$17 million in FY21. Thereafter, the average ROW payments from FY21-25 are expected to be roughly \$14 million per year.⁴⁷ Operational ROW payments are not expected to occur after FY25.

7. Integrated Transportation System (ITS): The ITS is a feeder bus system flowing into Tren Urbano and operated by a third-party provider. ITS total projected cost for FY21 is approximately \$12 million and these costs are expected to average \$11M per year from FY21-25. These expenses include bus service expenses, a monthly fixed management fee, fare box expenses, and other special service fees. In FY2021, a service increase of 15% was activated by HTA for this fiscal year which leads to higher than expected "other" costs. Bus service expenses are calculated using assumptions based off of mile and hourly costs for MetroBus, Metro Urbano, and Tren Urbano Conexión, reflecting the structure of the contract with the third-party provider. This is driven by forecasted volume of miles traveled by buses within ITS and the operational hours of the system's buses. Costs are projected to increase with Puerto Rico's inflation over the forecast period, while the total hours and miles traveled per year of these buses remains flat.

8. Litigation Reserve: Litigation reserve projections are based on historical litigation expenses, with FY21 expected spending to be approximately \$8.5 million. This amount is expected to remain constant from FY21-FY49.

9. Other Program Expenses: Other Program Expenses consist of additional expenses related to construction projects and operating expenditures. Rent and maintenance of buildings are some of the largest line items within this category, which is expected to be \$2 million per year on average between FY21-FY25. This line item is based on historical spend and then increases throughout the 30-year period with Puerto Rico's projected inflation.

9.2) Capital expense baseline

The operating expenses of HTA are distributed into the following 7 categories: (1) Highway Construction Hard Costs; (2) Highway Construction Soft Costs; (3) Emergency Repair Costs; (4) Transit CIP; (5) Toll Optimization CIP; (6) Local Construction Costs; and (7) Right of Way (ROW) payments. The projected annual expenses for each category, shown in five-year increments over the Fiscal Plan period, are shown in Exhibit 19.

⁴⁷ These ROW payments are included in operating expenditures because they correspond to previous claims that must be paid out whereas ROW payments that are included in capital expenditures correspond to potential future claims related to construction.

Exhibit 19: Capital expenses by category, FY21-49

Expense category	FY21	FY22	FY23	FY24	FY25	FY21- 25	FY21- 49
Highway Construction Hard Costs	(352)	(536)	(382)	(292)	(275)	(1,837)	(9,097)
Highway Construction Soft Costs	(34)	(74)	(55)	(48)	(41)	(252)	(1,215)
Emergency Repair Costs	(30)	(89)	(31)	(16)	-	(166)	(166)
Transit CIP	(67)	(55)	(32)	(28)	(23)	(207)	(887)
Toll Optimization CIP	(15)	(31)	(37)	-	-	(83)	(83)
Local Construction Costs	(10)	(10)	(10)	(10)	(10)	(50)	(344)
ROW payments	(3)	(3)	(3)	(3)	(3)	(17)	(113)
Total capital expenses	(511)	(799)	(551)	(398)	(353)	(2,611)	(11,906)

1. Highway Construction Hard Costs: For FY21, hard costs are projected to be \$352 million with 68% of these costs coming from federal construction projects. From FY20-FY25, hard cost estimates are based on project-level bottoms-up build based on HTA's existing and planned project pipeline. Given the impact of COVID-19 on capital delivery for FY20, several projects were pushed back into FY21 and FY22. Consequently, hard costs for FY22 spike at \$536 million for both Federal and Non-Federal construction projects. From FY26-FY28, costs are based on investment required to bring roads in Puerto Rico to SOGR, as estimated in third party reports.⁴⁸ After FY28, these hard costs are based on benchmarks of CapEx spend per lane mile from other US states and adjusted for Purchase Power Parity and base year inflation.⁴⁹ These costs will also grow in line with Puerto Rico's projected inflation.

2. Highway Construction Soft Costs: Soft costs for capital expenses refer to pre-construction costs (e.g., design, environmental studies) of construction projects. Soft costs for FY2021 were expected to be \$34 million with approximately 60% coming from non-federal construction projects. Soft costs for Federal construction projects prior to FY25 were estimated by HTA based on the projects they aim to complete in each fiscal year. Non-federal project soft costs, however, were calculated using a soft cost ratio of 18%. This ratio is in line with best practices from other US jurisdictions.⁵⁰ After FY25, the Federal soft cost ratio used is 9%. This Federal soft cost ratio is the average annual soft cost ratio of federal projects in FY19-FY25 and therefore it is assumed to remain constant.

⁴⁸ PRHTA 2018-2028 Capital Improvement Program Validation Report, p. 63. Estimates are in 2018 \$USD. Estimates for FY26 to FY28 subtract project level investments in preceding 8 years to determine the remaining investment required to achieve SOGR based on the PRHTA 2018-2028 Capital Improvement Program Validation Report.

⁴⁹ 2017 Reason Institute Road Benchmark Data, Found online at: <https://reason.org/policy-study/24th-annual-highway-report/24th-annual-highway-report-executive-summary/>.

⁵⁰ Ibid.

3. Emergency Repair: Federal and local emergency costs make up the emergency repair category and are projected from FY21-FY24. Federal emergency cost spending made up the majority of emergency repair spending with a total of \$166 million from FY21-FY24. Local emergency costs are expected to total \$0.1 million for the same period.

4. Transit CIP: Transit CIP refers to investments that aim to improve Tren Urbano. These investments include completing emergency relief projects, installing new telecommunications systems, repairing rolling surfaces, upgrading automated fare collection, and repairing Point-of-Sale systems. Transit CIP expenses are projected to be \$67 million in FY21. From FY21-FY25, these expenses are based off a list of Transit CIP projects whose funding has been approved by FTA. After FY25, Transit CIP costs grow at inflation.

5. Toll Optimization CIP: Toll Optimization CIP refers to CapEx associated with restoring fare collection and improving the electronic tolling system. These investments reduce violations, increase reliability in transaction processing and account balance maintenance, optimize the process to capture and record transactions, and ensures compliance with relevant security protocols. Toll Optimization CIP investments in the amount of \$83 million are expected to occur from FY21-FY23. The majority of these expenses occur in FY22 and FY23, with an average of \$34 million spent per year.

6. Capital ROW Payments & Local Construction Costs:⁵¹ Capital ROW payments are expected to be an average of \$3.9 million per year from FY21-FY49, and local construction costs are expected to be an average of \$11.9 million for this same time period.

⁵¹ ROW payments within capital expenditures category refers to potential future claims related to construction, whereas those included in the operational expenditures category are past claims that must be paid out. Division reflects HTA accounting practices.

PART V – CURRENT FISCAL MEASURE FINANCIAL PROJECTIONS

HTA's baseline financial projections highlight the need for the Authority to transform its organization, enhance revenues, and optimize expenses through the implementation of Fiscal Plan measures. Although previous Certified Fiscal Plans outlined requirements to implement some of these measures, limited progress has been achieved to date in implementing the measures. HTA must successfully implement all of the fiscal measures in the 2020 Certified Fiscal Plan to become fiscally sustainable and improve the infrastructure that supports the citizens of Puerto Rico (see Exhibit 20). This is the only way it can close its operating and capital deficits.

Exhibit 20: Proposed Fiscal Measures

		Fiscal impact, \$M			
		30 years (FY21-49)	Average/ year	FY20	
<div><div></div><div></div></div>	1 Recruit a new Board of Directors	Recruit a new Board of Directors, with distinguished professionals from the private sector, thus promoting the independence of the Authority from political interference	-17	(1)	
	2 Adopt capital delivery KPIs	Adopt a set of metrics that will be used to ensure that capital delivery happens on time and in line with best practices from other US states.	0	-	N/A
<div><div></div><div></div></div>	3 Increase fare revenue	Increase toll fares in line with inflation and optimize fare collection through a new electronic tolling system	2,492	95	
	4 Increase fine revenue	Increase toll fines in line with inflation, introduce a tiered fine payment system and optimize fine collection through a new electronic tolling system	783	27	
	5 Improve ancillary revenue	Improve ancillary revenues through activities other than asset sales (e.g., advertising, rentals)	169	6	
	6 Expand transit revenue	Expand transit revenues through the integration of TU with other transport networks and other initiatives (e.g., Transit Oriented Development)	140	30	N/A
	7 Manage congestion	Introduce new congestion management mechanisms (e.g., Dynamic Toll Lanes, Bus Rapid Transit)	7	5	
	8 Collect discretionary funds	Collect more discretionary funds in order to execute projects that would further expand the capacity of the island's transport infrastructure	51	100	
<div><div></div><div></div></div>	9 Reduce pensions	Reduce pension costs in line with the targets laid out by the Commonwealth	67	2	N/A
	10 Reduce healthcare cost	Reduce costs of healthcare insurance while also maintaining a high level of benefits for covered employees	15	2	
	11 Eliminate Xmas bonus	Eliminate the Christmas bonus of HTA employees	341	1	
	12 Reassess contracts	Reassess the operating contract of Tren Urbano in order to bring the costs of TU closer to the costs of its North American peers	7	12	N/A
<div><div></div><div></div></div>	13 Optimize capital expenses	Optimize capital expenses in a way that pushes HTA to be as efficient as other state transportation agencies	5	7	N/A
Other	14 Explore concessions	Explore concession opportunities that would enable the Authority to develop the infrastructure of the island in a cost conscious manner	(10)	(10)	
Total		4,727	163	2	

Executing these fiscal measures would generate approximately \$4.7B in much needed revenues and cost savings over the next 30 years. Revenue enhancements are expected to drive most of this amount, generating approximately \$4.1B or about 86% of the total. Cost savings would contribute approximately \$0.6B (14% of the total impact). Enhancing toll fares and fines through price increases and performance improvement accounts for \$3.5B of the \$4.1B (approximately 73% of the total fiscal benefit). The next most significant measures relate to the operation of Tren Urbano, which would integrate with other transit systems and reduce its operating costs. These account for approximately \$0.6B, or 13% of total fiscal measure impact. The impact of each measure over time is provided in Exhibit 21.

Exhibit 21: Annual Fiscal Measure Impact vs Baseline over the Fiscal Plan Period

Fiscal Measures, \$M	FY21	FY22	FY23	FY24	FY25	FY 21-25	FY 21-49
① Recruiting new Board	-	(1)	(1)	(1)	(1)	(2)	(17)
② Adopting KPIs	-	-	-	-	-	-	-
③ Increasing fare revenues	10	21	31	34	39	135	2,692
④ Increasing fine revenues	11	21	20	21	22	95	783
⑤ Improving ancillary revenues	0	2	3	3	3	11	169
⑥ Expanding transit revenues	-	2	4	5	7	17	291
⑦ Managing congestion	3	0	3	3	4	13	140
⑧ Collecting discret. funds	(0)	(0)	(0)	(0)	(0)	(1)	(7)
⑨ Reducing pensions	-	1	2	2	2	8	51
⑩ Reducing healthcare costs	1	2	2	2	1	8	67
⑪ Eliminating Xmas bonus	1	0	0	0	0	2	15
⑫ Reassessing TU contracts	-	5	10	10	10	34	341
⑬ Optimizing capital expenses	15	24	18	14	13	84	206
⑭ Exploring concessions	-	(3)	(3)	-	-	(5)	(5)

Implementing these measures would reduce HTA's projected pre-Commonwealth transfer deficit to approximately \$1.7B instead of the approximately \$6.4B projected in the baseline scenario. This total \$1.7B deficit reflects a capital deficit of approximately \$4.0B combined with an operating surplus of approximately \$2.3B. An annual transfer of approximately \$2.2B from the Commonwealth to HTA, as seen in Exhibit 22 below, would fund the capital deficit not covered by the operating surplus. This funding level is based on projections of the Fiscal Plan, assuming full and successful implementation of the fiscal measures. Due to the Commonwealth's own fiscal challenges as set forth in its certified Fiscal Plan, the Commonwealth is unable to transfer any funds to HTA for any other purpose. This transfer is explained further in Part VI of this Plan.

Exhibit 22: Post-measures financial performance of HTA⁵²

Revenues / Expenses, \$M	FY21	FY22	FY23	FY24	FY25	FY 21-25	FY 21-49
Operating revenues (HTA)	146	207	216	223	229	1,021	8,682
Operating revenues (FTA)	20	20	20	20	20	100	580
Operating expenses	(265)	(258)	(240)	(237)	(238)	(1,239)	(6,953)
Capital revenues (Federal)	341	455	288	202	161	1,446	5,468
Capital revenues (CW)	258	146	54	54	55	568	2,185
Capital expenses	(496)	(775)	(533)	(384)	(340)	(2,528)	(11,700)
Transfer to other public entities	5	(205)	(200)	(200)	(200)	(200)	(200)
Total CW transfer	222	238	198	123	115	896	2,200
	227						461

Exhibit 23 highlights the improvements in HTA's operating and capital performance over various revenue and expense categories that will be achieved if HTA fully and timely implements the outlined fiscal measures. Chapters 10, 11, 12, 13, and 14 provide additional details on the fiscal measures outlined in Exhibit 20.

⁵² FY21-22 surplus is used to build an emergency reserve for unforeseen needs and outstanding obligations to other public entities (~\$260M)

Exhibit 23: Post-measures operating & capital performance of HTA

Item, \$M	FY21	FY22	FY23	FY24	FY25	FY21-25	FY21-49
Toll fares	99	148	154	157	161	718	6,438
Toll fines	17	43	42	44	45	191	1,383
Other income	5	8	9	9	9	39	345
Transit fares	25	10	11	13	14	73	516
Operating FTA funds	20	20	20	20	20	100	588
Operating FTA funds	166	236	243				
TU Operation & Maintenance	(74)	(65)	(61)	(59)	(72)	(332)	(2,151)
Toll Highways Administration & Maintenance	(42)	(44)	(44)	(42)	(42)	(214)	(1,388)
Salaries & Related Benefits	(44)	(41)	(39)	(38)	(36)	(198)	(1,149)
Pensions	(37)	(36)	(34)	(34)	(34)	(175)	(787)
Other Operating Expenses	(29)	(34)	(29)	(29)	(19)	(140)	(693)
ROW payments	(17)	(16)	(11)	(13)	(13)	(70)	(70)
Integrated Transportation System	(12)	(11)	(11)	(12)	(12)	(58)	(408)
Litigation Reserve	(9)	(9)	(9)	(9)	(9)	(43)	(247)
Other Program Expenses	(2)	(2)	(2)	(2)	(2)	(9)	(60)
	(265)	(258)	(240)	(237)			
	(99)	(31)	(5)	5		(118)	
Item, \$M	FY21	FY22	FY23	FY24	FY25	FY21-25	FY21-49
Regular FHWA funds	252	318	226	160	139	1,095	5,117
Regular CW CapEx appropriation	59	53	54	54	55	275	1,892
Non-regular CW CapEx funds¹	199	93	-	-	-	292	292
Federal Emergency Funds	24	83	31	16	-	154	154
Non-regular Capital FTA funds	66	53	30	25	21	197	197
	600	601	341	256	216	2,013	7,653
Highway construction hard costs	(338)	(514)	(367)	(281)	(264)	(1,764)	(8,940)
Highway construction soft costs	(32)	(71)	(53)	(46)	(39)	(242)	(1,166)
Federal Emergency Repair Costs	(30)	(89)	(31)	(16)	-	(166)	(166)
Transit CIP	(67)	(55)	(32)	(28)	(23)	(207)	(887)
Toll Optimization CIP	(15)	(31)	(37)	-	-	(83)	(83)
Local construction costs	(10)	(10)	(10)	(10)	(10)	(50)	(344)
ROW payments	(3)	(3)	(3)	(3)	(3)	(17)	(113)
		(5)			(340)	(2,528)	(11,700)
		(174)			(125)	(515)	(4,047)
Total CW transfer	222	238	198	123	115	896	2,200
			1	1	1		

¹ Including a rollover of ~\$120M

CHAPTER 10: ORGANIZATIONAL ENHANCEMENT FISCAL MEASURES

In order to become an efficient capital delivery organization, HTA must implement the following 2 fiscal measures:

- 1. Recruit a new Board of Directors**
- 2. Adopt Capital Delivery KPIs**

10.1) Recruiting a new Board of Directors

HTA must establish a Board of Directors that would provide regular guidance to HTA executives, improve fiscal and corporate governance of HTA, and establish the short-, medium- and long-term operational priorities of the entity in a professional and apolitical manner to ensure its services and necessary capital expenditures are adequately funded.

The proposed Board should be composed of seven members: three public servants and four independent, distinguished professionals from the private sector. The public servant positions should be filled by the Secretary of Transportation, the Secretary of Treasury, and the Executive Director of Puerto Rico Fiscal Agency and Financial Advisory Authority (AAFAF). The independent private professional positions should be filled by a licensed engineer, a finance professional, and two professionals with proven public and private sector experience in infrastructure, planning, economic development, and/or public administration.

Board members must (i) be appointed by the Governor, with the advice and consent of the Senate, and (ii) be selected from a candidate list developed by a third party private search firm. Members should possess relevant and successful experience in long-term transportation planning and capital investments. Additionally, membership should be staggered with defined, six-year terms to avoid disruption related to political cycles. Finally, strict guardrails must be put in place to ensure any conflicts of interest are avoided.

Recruiting the independent Board members is projected to cost approximately \$0.2M in professional search fees during FY21. Retaining the independent Board members from FY22 onwards would require that HTA provide them with compensation similar to benchmark private sector Boards or public corporation Board members. The Board's total compensation, including all reimbursements for applicable office expenses, would equal approximately \$0.5M per year and increase in line with inflation after FY25. As stipulated in the PREPA Enabling Act, members of the Board who are officials of the Government shall not receive additional compensation for their services and other members will be entitled to reasonable per diems, as noted above.

This new board will require a law, which must be drafted and submitted to the Legislature, accompanied by a report that details the reform's benefits. May 31, 2021 is the target date for legislative approval.

Exhibit 24: Required Implementation Actions for Recruiting a new Board of Directors for HTA

Measure	Action item	Responsible party	Deadline
Create new Board of Directors for HTA	Share draft of Law enabling the appointment of the Board with FOMB	Commonwealth	March 31, 2021
	Approve Law enabling the appointment of the Board	Commonwealth	May 31, 2021
	Hire executive recruitment firm to identify potential independent Board members	HTA	July 31, 2021
	Approve appointment of independent Board members	Commonwealth	October 31, 2021

10.2) Adopting new KPIs

HTA's performance must be measured by its ability to deliver against a set of KPIs drawn from the best practices of other US transportation authorities and aligned with federal requirements. By tracking the Authority's performance on different aspects of capital delivery (e.g., cost and time), HTA executives can identify and eliminate the inefficiencies that currently undermine transportation infrastructure development on the Island and make it difficult for the Authority to complete projects without delays or cost overruns, improving HTA's internal controls and accountability, and ensuring necessary capital expenditures are executed.

Initially, HTA must aim to adopt and closely track the KPIs and targets in Exhibits 25 and 26 by August 31, 2020:

Exhibit 25: Proposed KPIs - Capital Delivery

Strategic priorities	Metrics ¹	Actual	Target
	Delays in NTP (Days from plan – Program Level) Quarterly – Cumulative	6	<30 Days
	% of Planned NTP Awards (Program Level) Quarterly	100%	>80%
	% of Federal Funds Obligated (Program Level) Annual	NA	>90%
	% Soft vs Hard Costs (Program Level) Annual – Previous Year	NA	15%
	% Change in Cost (Program Level) Quarterly - Cumulative	1%	<15%
	% Change in Duration (Program Level) Quarterly - Cumulative	5%	<25%
	Disbursement Variance (Program Level) Quarterly - Cumulative	32%	<20%
	Disbursement Variance (Program Level) Quarterly - Cumulative	NA	20%

Exhibit 26: Proposed KPIs – Safety, Asset Quality, & Congestion

Strategic priorities	Metrics	Actual	Target
	# of road fatalities per 100M VMT	1.91	1.85
	# of road serious injuries per 100M VMT	24.0	31.7
Asset quality	% of Interstate Pavement in Good condition ²	10.8%	>2%
	% of Interstate Pavement in Poor condition ²	13.2%	<5%
	% of Non- Interstate NHS Pavement in Good condition ²	2.2%	>2%
	% of Non-Interstate NHA Pavement in Poor condition ²	9.0%	<20%
	% of NHS bridges in Good condition ²	20.5%	>10%
	% of NHS bridges in Poor condition ²	11.2%	<10%
	\$ of congestion cost per customer	\$1,150	\$1,045 ¹
	Travel time index	1.31	1.23 ¹
	Mins for incident response	NA	<15 mins

HTA executives must then work with division leaders and project administrators to identify more granular KPIs for each specific construction project by November 30, 2020. These would be communicated to all project stakeholders (e.g., employees and contractors). Next, division leaders and project administrators must design enforcement mechanisms, such as timelines of project milestones with owners and penalties for KPI underperformance.

Exhibit 27: Required Implementation Actions for adopting and revising KPIs

Measure	Action item	Responsible party	Deadline
Adopt aggregate Capital Delivery KPIs	Adopt capital delivery KPIs that are laid out in this Plan	HTA	July 31, 2020
	Align on a cadence of KPI reporting	HTA / FOMB	August 31, 2020
Adopt project-specific KPIs	Internally align on a set of project-specific KPIs	HTA	September 30, 2020
	Submit proposed project-specific KPIs to FOMB for approval	HTA	October 31, 2020
	Approve project-specific KPIs (with any necessary revisions) and determine a reporting cadence	FOMB	November 30, 2020
Update KPIs	Confirm relevance of existing KPIs and propose any updates that might be necessary	HTA	April 30, 2021
	Approve / reject proposed updates to KPIs	FOMB	May 31, 2021

CHAPTER 11: FISCAL MEASURES: REVENUE INCREASES

The following six fiscal measures must be implemented by HTA and will enable HTA to increase its revenues by approximately \$4.1B over a 30-year period, thus delivering approximately 85.5% of the total fiscal measure impact:

1. Increasing toll fares and optimizing fare collection: \$2.7B (~57%)
2. Increasing toll fines, introducing a tiered fine system and optimizing fine collection: \$0.8B (~16%)
3. Expanding transit revenues: \$0.3B (~6%)
4. Improving ancillary revenues: \$0.2B (~3.5%)
5. Adopting congestion management initiatives: \$0.1B (~3%)
6. Collecting discretionary funds: \$1.5B (although the net fiscal impact of these funds will be zero because they will have to be spent on discretionary projects that go beyond the maintenance of transportation assets in a State of Good Repair)

11.1) Increasing toll fares and optimizing fare collection

HTA must enhance toll revenues by carrying out both of the following two initiatives that could raise approximately \$136M in additional revenue by FY25 and approximately \$2.7B by FY49:

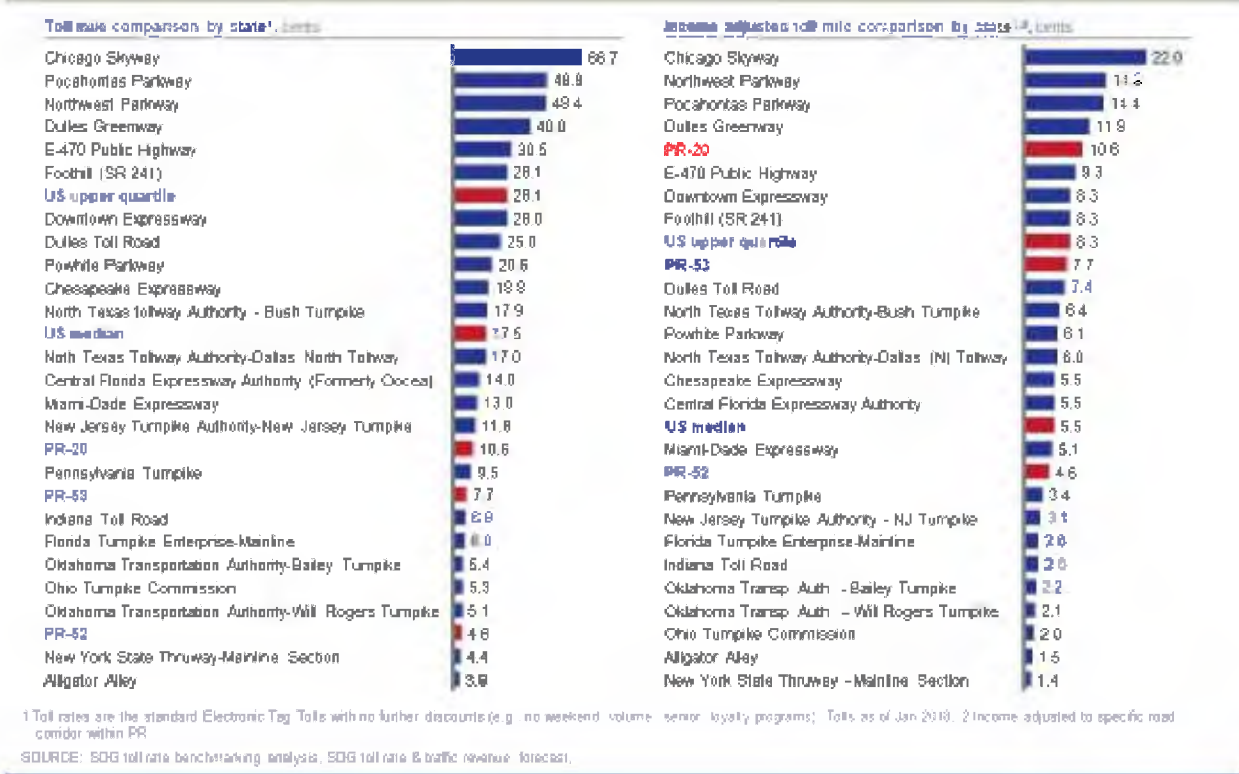
- Increase toll fares
- Improve and expand the ORT regime to improve efficiency in collecting toll fares

Increasing toll fares

HTA has not adjusted toll fares for HTA-owned toll roads since 2005. Because of this, the Authority has had difficulty investing in and improving its road infrastructure. In contrast, fares have increased regularly in other US states and on the Puerto Rico toll roads that concessionaires manage and operate. The difference in the state of repair of HTA and concessionaire roads in Puerto Rico is substantial and telling. As Exhibit 28 shows, two of the three roads with proposed fare increases (i.e., PR-52 and PR-53) are below the upper quartile for fares, even when adjusted for PPP. PR-52, the largest toll revenue generator, falls below the US median.

Toll increases cannot be delayed any longer. Despite impacts of COVID-19, toll fares now face a 15-year gap from keeping pace with expenses, a gap that continues to grow with each passing year of non-implementation by the Government. Each year HTA fails to implement these increases, fare pricing on the island falls increasingly out of step with inflation and, by extension, the cost of maintaining HTA-owned roads and transportation assets. Thus, to ensure its operations and necessary capital expenditures are adequately funded, and to ensure the fiscal targets contained in this Fiscal Plan are met, HTA must introduce an initial toll fare increase to “catch up” on inflation adjustments it has failed to implement in the past.

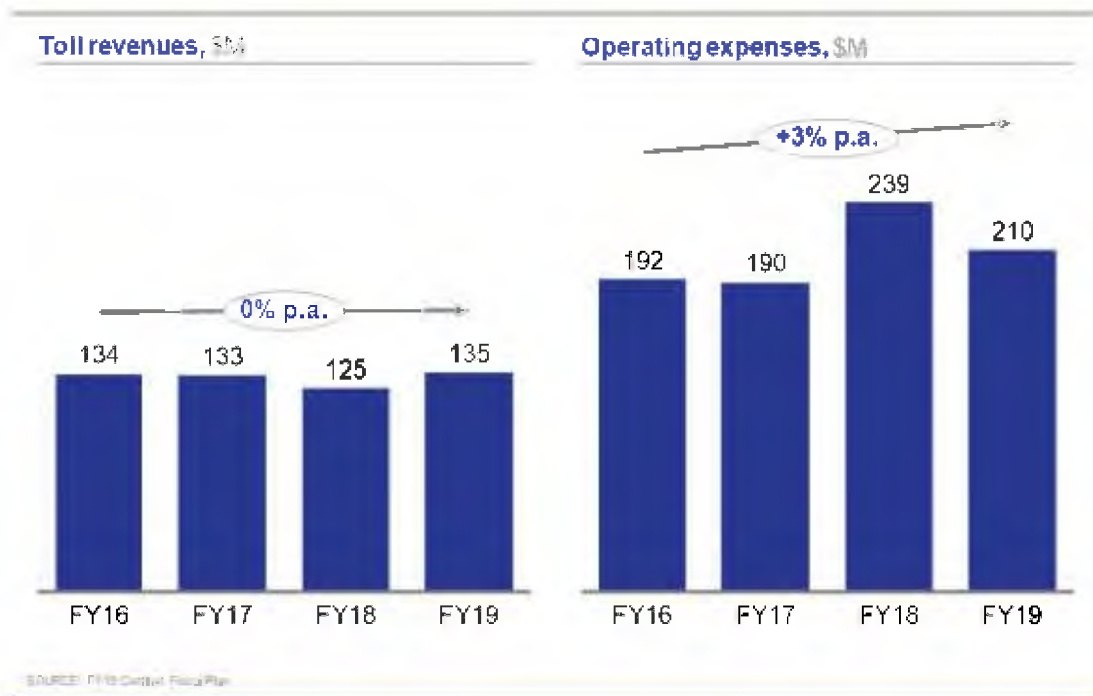
Exhibit 28: Comparison of tolling in Puerto Rico and in other U.S. states



The gap continues to grow between toll revenues, flat from 2016-2019, and HTA's operating costs, which have risen by 3% per year during the same period (Exhibit 29).⁵³ Lack of investment leads to an inability to properly maintain roads, and a further reduction in investment attractiveness of Puerto Rico and rather than a positive contribution to economic development.

⁵³ 3%: annualized 3-year rate of operating expense increase according to the 2019 Certified Fiscal Plan, p. 73.

Exhibit 29: Comparison of toll revenues and operating expenses, FY16-19



Since 2015, HTA has offset its deficits with transfers from the Commonwealth and by reallocating CapEx funds to OpEx accounts. This approach cannot continue since it prevents HTA from achieving its capital delivery targets and depletes funds that could otherwise be used to improve the transportation system.

To make up for these deficits, catch up with inflation since 2005 and compensate for the lack of increases in FY20, fares must start increasing by approximately 8.5% per year from FY21 to FY23. This step would generate approximately \$48M in additional revenue over this period. Starting in FY24, an annual average increase of 3.1% must be adopted. This growth rate reflects inflation plus 1.5% and is consistent with the allowed annual increase for roads under concessionaires agreements in Puerto Rico. It would bring in approximately ~\$2.4B more from FY24 to FY49. The impact of fare increases on HTA's revenue is shown in Exhibit 30.

The increased fares would allow HTA to invest in strengthening and maintaining its toll road network, which is currently in poor condition. A prompt but gradual increase now will also reduce the need for greater increases in the future, which would do a disservice to Puerto Rico's drivers, as was the case in 2005, when fares were increased by 43%. In addition, Exhibit 31 shows that the higher rates should not have a substantial adverse impact on toll road traffic. This is because the benefits provided by toll roads, mainly time savings, substantially outweigh the costs incurred by drivers.

Exhibit 30: Impact of toll fare increases on HTA revenue, FY21-49

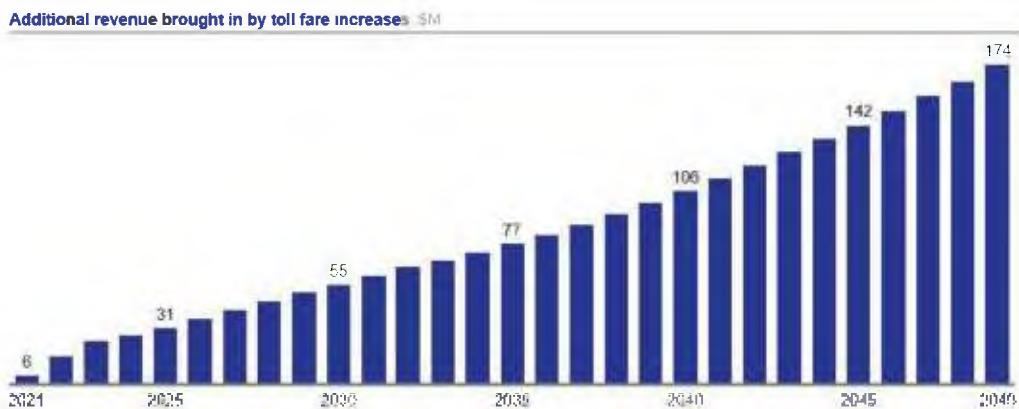


Exhibit 31: Impact of toll fare increases on toll road traffic and toll prices, FY21-49

Traffic volume ¹ (Millions of vehicles)							
	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2049
A: PR-20	10	9	8	4	3	3	3
B: PR-52	75	75	75	68	68	65	65
C: PR-53	12	12	13	11	11	11	11
D: PR-66	26	26	26	24	24	23	23
							% Change
A: PR-20				-10			
B: PR-52				-8			
C: PR-53				-15			
D: PR-66				-13			

Average toll price (Millions of USD)							
	FY2020	FY2025	FY2030	FY2035	FY2040	FY2045	FY2049
A: PR-20	0.34	0.34	0.34	0.34	0.34	0.34	0.34
B: PR-52	1.59	1.59	1.59	1.59	1.59	1.59	1.59
C: PR-53	1.64	1.64	1.64	1.64	1.64	1.64	1.64
D: PR-66	2.15	2.15	2.15	2.15	2.15	2.15	2.15
							% Change
A: PR-20				0			
B: PR-52				0			
C: PR-53				0			
D: PR-66				0			

¹ Numbers for FY2020 do not account for the impact of COVID-19

Because HTA is able to mandate toll fare increases after public consultation, according to Puerto Rican law, the 2020 Fiscal Plan requires HTA to adjust toll fares by September 30, 2020.

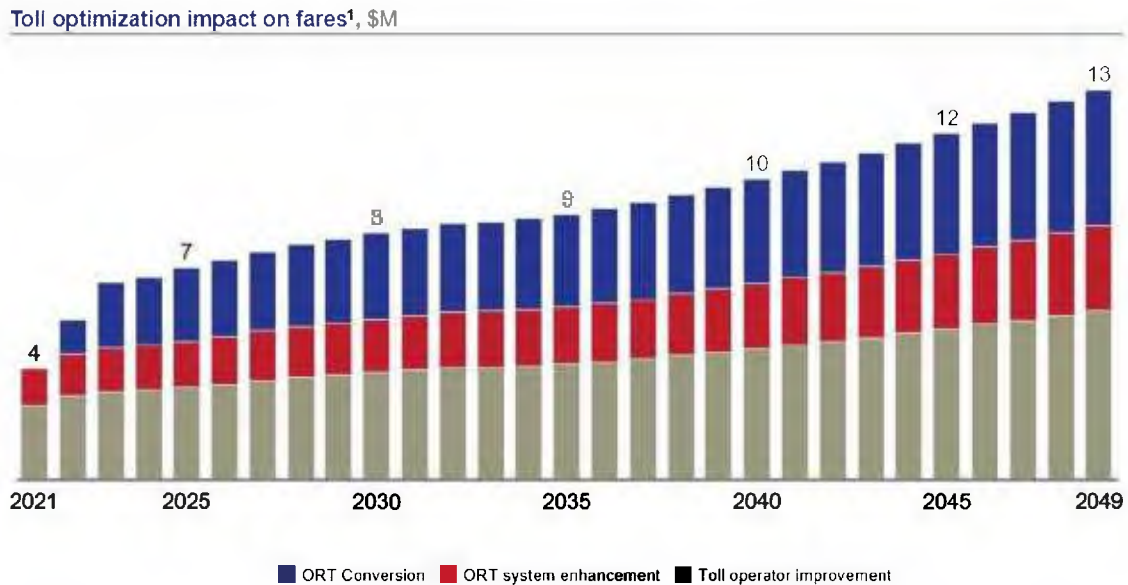
Optimizing fare collection

Optimizing fare collection by installing new tolling systems and simultaneously expanding Open Road Tolling (ORT) will also increase toll revenues. Previously, HTA outsourced the management of tolling hardware and software systems to a private operator. However, HTA had to terminate that contract in August 2018 because the operator did not comply with the reliability standards for the tolling system and its repairs were not expedient enough in mitigating the impact of Hurricane Maria.

The Authority then appointed an interim operator for a transition period of 18 months and initiated a process to select a permanent operator for all toll roads. The permanent operator will install new systems that increase the reliability and speed of transaction processing and account balance maintenance, better track toll violations, and ensure data collection complies with all relevant security protocols.

Optimizing tolls and expanding ORT will require an investment of approximately \$83M in capital expenses from FY21 to FY23, according to HTA's projections. This figure will be fully offset by the additional toll revenues that the optimized fare collection will generate over the next five (approximately \$30M) and 30 years (approximately \$267M), as seen in Exhibit 32 below.

Exhibit 32: Impact of toll optimization on fare revenue, FY21-49



¹ Assumptions: ORT Conversion impact: 2% revenue increase for all affected parts of the network / ORT system enhancement impact: 1% revenue increase / Toll operator improvement: 2% revenue increase

The capital investments required to install an optimized permanent tolling system were originally going to start in FY20. However, HTA is still working on the RFP to select a permanent toll operator. Expediting this effort, to optimize toll revenue collection and

thus ensure the fiscal targets contained in this Fiscal Plan are met, the Authority must select an operator for its tolling system by February 28, 2021 and submit the resulting contract for review by the FOMB by April 30, 2021, so that the new operator can take over the administration of the electronic tolling system by the end of FY21, as seen in Exhibit 33 below.

Exhibit 33: Required Implementation Actions for increasing toll fare revenue

Measure	Action item	Responsible party	Deadline
Increase toll fare revenue	Introduce optimized electronic fare collection system	HTA	July 31, 2020
	Hold sessions informing public of upcoming fare adjustments	HTA	July 31, 2020
	Increase toll fares in line with the Fiscal Plan	HTA	September 30, 2020
	Issue RFP for new toll operator	HTA	September 30, 2020
	Select new toll operator and begin contract negotiations	HTA	February 28, 2021
	Finalize new operator contract and submit for FOMB review	HTA	April 30, 2021
	Begin operation of toll highways under new contract	HTA	June 30, 2021
	Begin expansion of Open Road Tolling	HTA	June 30, 2021

11.2) Increasing toll fines, introducing a tiered fine system, and optimizing fine collection

Optimizing fine collection

HTA's historical fine collection rate has been approximately 60%, adjusting for the current collection rate of 0% due to the Executive Order which suspended toll fine collections. To ensure the fiscal targets contained in this Fiscal Plan are met, HTA must implement measures to optimize toll fine collection. Specifically, implementing the new toll operation system should increase the fine collection rate to approximately 80% and shorten the fine collection lifecycle⁵⁴ from 18 to 12 months. These improvements are projected to generate \$61M in additional revenue over the next five years (FY21-25) and \$347M through FY49. In addition, these improvements are also projected to generate

⁵⁴ Fine collection lifecycle: amount of time it takes for fines to be collected.

\$20M of cost savings through FY49, since they will reduce the reliance of HTA on physical fine enforcement mechanisms.⁵⁵

Increasing toll fines and introducing a tiered fine system

To enable the achievement of the fiscal targets contained in this Fiscal Plan and ensure its operations are adequately funded, HTA must increase its fine prices in line with inflation and implement a tiered fine system that rewards early payments. Increasing fine prices in line with inflation (to the closest multiple of \$1) would align with both the scheduled increases in toll fares and the Federal Civil Penalties Adjustment Act of 2015. It would encourage drivers to avoid penalties and would raise fine revenue.

A tiered fine payment system must follow the best practices of other US states.⁵⁶ This system would increase fines for all violations that go unpaid for a long period of time.⁵⁷ This would reward quick payments and penalize late payers. These two measures are projected to generate \$31M in additional fine revenue over the first five years (FY21-25) and \$415M by FY49 (Exhibit 34).

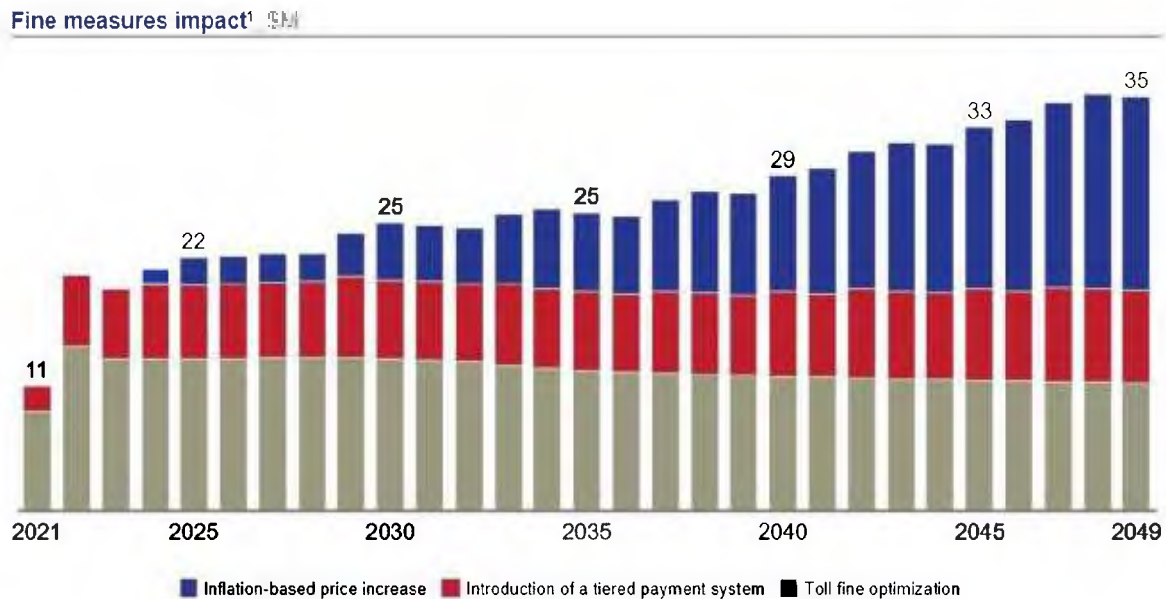
Legislative authority is required before HTA can implement toll fine increases and establish a tiered toll-fine structure. To help HTA implement these strategies by Q4 FY21, the Authority and the Commonwealth Government must develop the necessary legislation and ensuring its approval by no later than February 28, 2021.

⁵⁵ e.g., letters notifying violators that their fines are pending after a long time

⁵⁶ The example of Virginia is indicative. In Virginia, unpaid fines increase by 2x after 2 months and by 8x after 4 months.

⁵⁷ For the purposes of this Plan, we have assumed that fine prices would double after a violation remains unpaid for six months. The simplicity of the tiered system structure would ensure easy implementation by HTA.

Exhibit 34: Impact of fine measures, FY21-49



¹ Assumptions: Fine collection rate improves from 60% to 80% and fine collection life cycle is reduced from 18 to 12 months / Fine price increases in line with inflation to the closest multiple of \$1 / Tiered payments: fine price doubles for people who do not pay their fine within half a year from their violation / 65% will pay within half a year, while 15% will pay within 1 year and 20% will not pay at all

Exhibit 35: Required Implementation Actions for increasing fine revenue

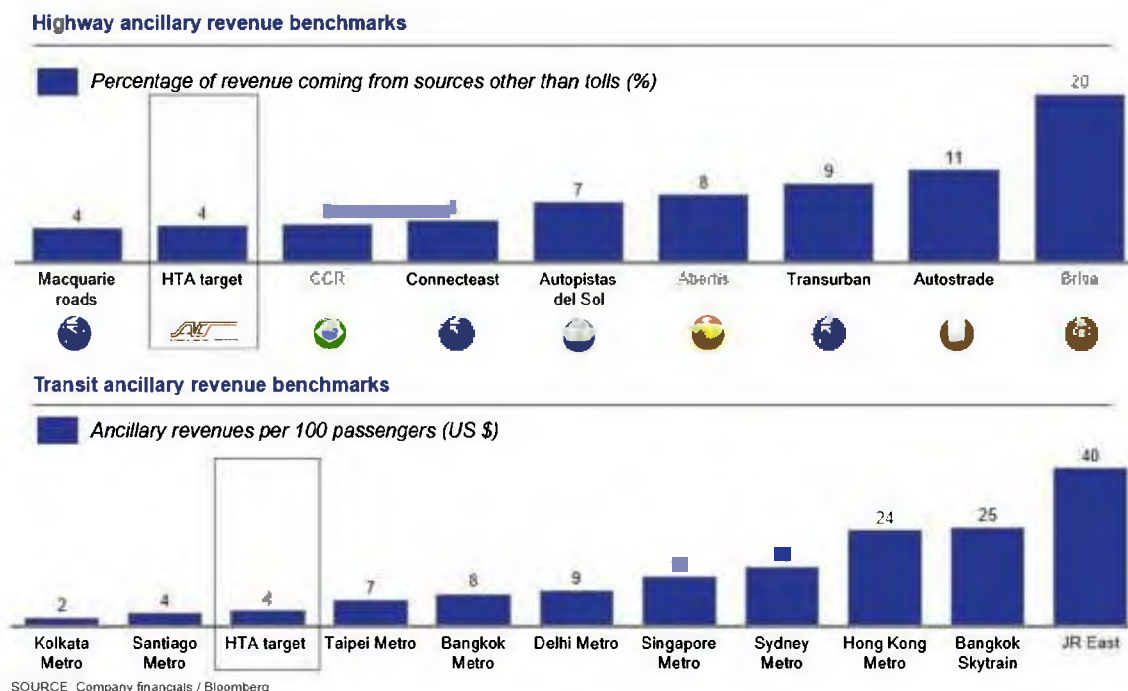
Measure	Action item	Responsible party	Deadline
Increase toll fine revenue	Resume fine collections with optimized electronic fine collection system	HTA	July 31, 2020
	Develop draft legislation for tiered fine system/ fine inflation increases and submit for FOMB review	Commonwealth	November 30, 2020
	Approve Law enabling fine price modifications	Commonwealth	February 28, 2021
	Introduce tiered fine system	HTA	March 31, 2021
	Implement recurring toll fine increases at end of each Fiscal Year	HTA	June 30, 2022- 2049

11.3) Improving ancillary revenues

HTA could also increase its ancillary revenues substantially. Implementation in FY19 and FY20 focused on disposing of real estate assets. However, this strategy cannot continue in the long run because it would deplete most of HTA's real estate portfolio by FY23. Emulating peer transit systems that have explored diversified ancillary revenue opportunities (e.g., advertising, space rentals, real estate development) would allow HTA to increase its ancillary revenues sustainably.

More specifically, if the Authority were to collect approximately \$4.1 for every 100 Tren Urbano passengers and \$4.4 for every \$100 of toll income, it could increase its ancillary revenues by \$11M through FY25 and by \$169M through FY49.⁵⁸ In order to meet these targets, HTA must invest approximately \$0.4M per year (adjusted for inflation) from Q3 FY21 onwards in an ancillary revenue management team.

Exhibit 36: Benchmarks of ancillary revenue performance



To achieve the fiscal targets contained in this Fiscal Plan, and ensure its operations are adequately funded, HTA must increase Tren Urbano's ancillary revenues by:

⁵⁸ Targets are based on HTA maintaining the following ratios stable at their FY21 levels: Tren Urbano anc. revenues / Tren Urbano passengers & Highway anc. revenues / Toll fare and fine revenues. Keeping these ratios stable while increasing Tren Urbano ridership and toll revenues (thanks to other fiscal measures) would push HTA to substantially increase its ancillary revenues as well.

- **Real estate leasing and development (as opposed to direct sale):** HTA must maximize retail business spaces at the Tren Urbano stations by renting available spaces. The Authority must explore the development of HTA-owned properties near Tren Urbano stations. It must also collaborate with the private sector to maximize the attractiveness, safety, and traffic in these areas and encourage Tren Urbano ridership. This would boost fare revenues and generate a passive income stream from rentals.
- **Advertising:** HTA must maximize advertising revenue by installing advertisements in different locations within Tren Urbano stations (e.g. platform walls and pillars) its fleet, and materials (e.g. tickets and rail cars). It could outsource advertising management to a private agency that is an expert in attracting advertisers.

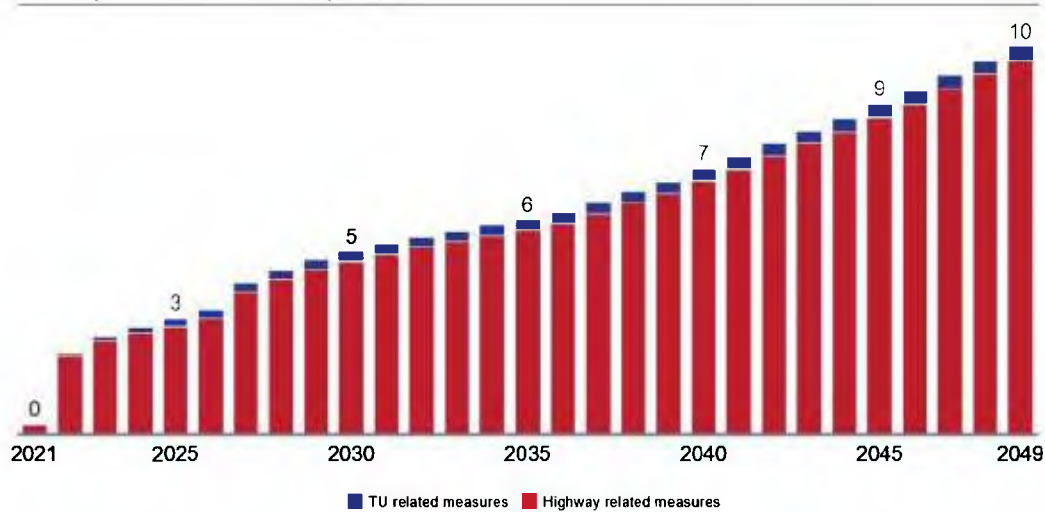
For the same reasons, HTA must also increase the ancillary revenues of its highway operations through:

- **Real estate development / rentals:** HTA must partner with private companies to build and operate highway-side facilities (e.g. service stations, hotels, and gas stations), to boost its income from real estate. The concessions must be structured so that the concessionaires pay either a lump sum payment at the beginning or a recurring annual payment on the basis of the rents they collect from these facilities. HTA must also enhance its existing service stations with improved services that will enhance the experience at and revenues from the stations.
- **Advertising:** HTA must install advertisements on billboards, road signs, and toll plazas in a manner that complies with the federal and local legal limitations on Out of Home (OOH) advertising.

HTA must also evaluate other high-impact opportunities that may currently face legislative or administrative constraints and explore ways to maximize its revenues within those constraints. For example, it could potentially charge utility companies for access to Right of Way (ROW) land plots near highways and Tren Urbano tracks. Exhibit 37 highlights the combined benefits of these activities.

Exhibit 37: Impact of ancillary revenue measures, FY21-49

Ancillary revenue measures impact¹, \$M



¹ Assumptions: TU ancillary revenue measures are designed to help HTA's TU operations attain \$4.14 per 100 passengers by FY2025 / Highway ancillary revenue measures are designed to help HTA's highway operations become 4.4% of toll revenues by FY2025 / Both targets assume that TU ridership and toll revenues would increase due to the implementation of the fiscal measures included in this Plan (e.g., transit enhancements, fare increases) / Numbers for highway measures incorporate impact of planned investment (~\$0.4M / year)

Exhibit 38: Timeline of improving ancillary revenue

Measure	Action item	Responsible party	Deadline
Improve ancillary revenue	Hire ancillary revenue management team	HTA	December 31, 2020
	Begin a campaign of ancillary revenue increases through quick wins (e.g., advertising)	HTA	February 28, 2021
	Begin ancillary revenue increases that require a more substantial involvement with third parties (e.g., rentals)	HTA	March 31, 2021
	Begin ancillary revenue increases that require long-term planning and complex legal agreements (e.g. joint real estate development initiatives)	HTA	June 30, 2021
	Develop a comprehensive ancillary revenue strategy, which will include a full asset inventory and an analysis of administrative constraints and submit to FOMB for review	HTA	June 30, 2021

11.4) Expanding transit fare revenues

Historically, Tren Urbano has underperformed its peer small metro transit authorities in medium-sized US cities. In FY17, before Hurricane Maria, Tren Urbano's Farebox Recovery Ratio (FRR), the ratio of operating revenues to operating expenses, was approximately 15%, falling to approximately 11% in FY19, compared to 25%, the approximate equivalent ratio peer systems (see Exhibit 39).⁵⁹ At the same time, Tren Urbano's ridership has fallen to ~5.4 million passengers annually, well below peer systems, such as Charlotte's CATS and Staten Island's SIRTOA, which have an annual ridership of ~8.5 and ~10.7 million passengers respectively.⁶⁰

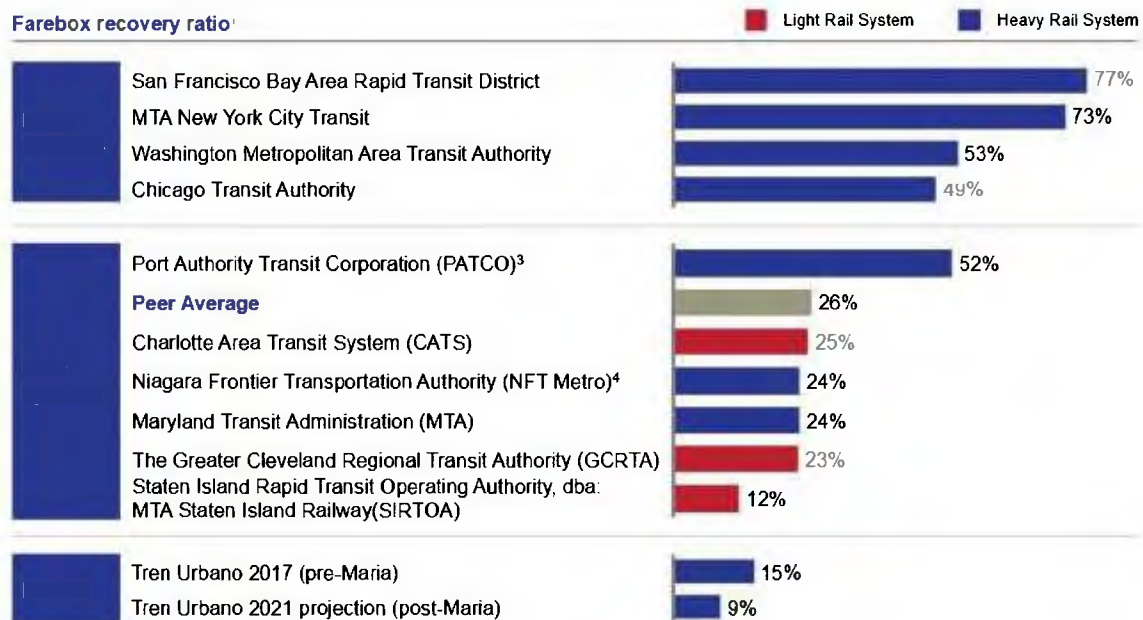
The low FRR and ridership are driven by TUs difficulty in attracting commuters, which stems from several factors: technical infrastructure problems (e.g., malfunctioning POS machines), little integration between the Tren Urbano and San Juan's other public transit systems (e.g., PRITA buses and the ATM ferry), and commuters' tendency to use private vehicles or transportation networks (e.g., Públicos). Because of these factors, Tren Urbano's FRR is expected to fall to approximately 9% in FY21.

This poor performance of transit in the Commonwealth, and Tren Urbano in particular, has significant negative economic consequences. Studies in Puerto Rico have shown that the reduction of travel times to employment opportunities has a clear link to decreasing poverty and increasing labor force participation rates. By improving the quality of transit operations, HTA decreases both the effective travel times of its users, as well as the travel times of all Puerto Ricans, by encouraging modal shift that contributes to decreases in road congestion. Further, transit users are less likely to own vehicles or have other travel options, making increases in service quality a critical component to improving economic mobility for lower-income residents of Puerto Rico.

⁵⁹ Excluding operating subsidies from FTA. Peer benchmarks come from the National Transit Database (NTD), Found online at: <https://www.transit.dot.gov/ntd/ntd-data>. Peers were chosen among Light Rail and Heavy Rail entities that met three of four criteria: Less than 18 stations, Less than 40 track miles, Less than \$15M in 2017 operating revenue, and / or Less than 11M Unlinked Passenger Trips.

⁶⁰ Public Transportation Ridership Report, American Public Transportation Association, Found online at: <https://www.apta.com/wp-content/uploads/2018-Q4-Ridership-APTA.pdf>.

Exhibit 39: Comparison of Tren Urbano FRR with peer transit system FRR



1 Revenues earned from fares/Total operating expenses. 2 Data was available through March 2019, was annualized to calculate annual farebox revenue. 3 Heavy rail line connecting New Jersey suburbs with Philadelphia. 4 Buffalo's light rail line. 5 Peers were chosen from both Light Rail (LR) and Heavy Rail (HR) reporting entities that met 3 of 4 criteria: Less than 18 stations (TU=16), Less than 40 track miles (TU=25.5), Less than \$15M in 2017 operating revenue (TU=\$9.8M), Less than 11M Unlinked Passenger Trips (TU=9.8M)
SOURCE: National Transit Database (NTD) FY 2017, PRHTA TU Ridership Data (March 2019)

By improving service, HTA could raise ridership; if this ridership caused Tren Urbano's FRR to rise to approximately 20%, a performance similar to peer systems, this would increase HTA's revenues by approximately \$17M by FY25 and about \$291M by FY49 (Exhibit 40).⁶¹ It would also decrease the average commute time in San Juan, which would increase labor productivity, increase mobility, and reduce the burden and environmental impacts of private-vehicle ownership.

To attain this farebox recovery ratio, the Authority must enhance revenue in two categories: (i) improvements it can directly implement; and (ii) improvements where HTA must collaborate with other public or private entities (e.g., integration with AMA buses and Públicos, investments in Bus Rapid Transit (BRT)).

The Authority must make the following improvements on its own (see Exhibit 41 for timeline):

- **Point of Sale system repair:** The Fare Collection System is an integral part of the Public Transportation System as it collects and processes fare revenue and system utilization. The software and back office have remained the same since the Tren Urbano began operations in 2005. Various elements of the Tren Urbano Automatic Collection System ("ACS") have reached end-of-life levels that in turn were aggravated by Hurricanes Irma and Maria in 2017. Water ingress was recorded in Ticket Vending Machines ("TVM") and barriers at Bayamon, Deportivo,

⁶¹ Gap of remaining 5% could be closed by implementing cost reductions.

Torrimar, Martinez Nadal, Las Lomas, and San Francisco stations. Exposure to high humidity and unstable power sources further exacerbated the degraded condition of the system. A post-hurricane damage assessment of the Automatic Fare Collection (“AFC”) system was conducted in 2018. The resulting report confirmed that 25% of TVM’s and 49% of passenger barriers are in operating condition. At this moment, the AFC system continues to operate in a state of severe degradation that in turn directly affects revenue stream and proper accountability. Consequently, the current condition of the Tren Urbano results in public accessibility reduction, reduced attractiveness of facilities, and a lower quality of service. Furthermore, as a result of outdated POS systems, Tren Urbano riders cannot use their debit or credit cards to purchase tickets and revenue has fallen. HTA is currently hiring a contractor to repair the POS machines, and HTA projects the system will be fully operational by Q1 FY22, according to HTA estimates. HTA must make the necessary capital expenditures to repair the POS machines by Q1 FY22 to promote economic growth and ensure HTA’s operations are adequately funded. Once it is reintroduced, Tren Urbano fare revenues are expected to increase by 10%, which will bring the system’s FRR to approximately 11% (i.e., increasing by \$18M from FY22 to FY49).

- **Enhancement of Tren Urbano’s rider rules:** To ensure the fiscal targets contained in this Fiscal Plan are met, HTA must continually review Tren Urbano ridership rules to ensure they encourage the use of public transit and address the needs of commuters who rely on Tren Urbano as their main mode of transportation.

To enable the achievement of the fiscal targets contained in this Fiscal Plan, invest in measures that will promote economic growth, and ensure the adequate funding of the public transportation system, HTA must work closely with other transit agencies, government authorities, and private transport companies to carry out other initiatives (see Exhibit 41 for timeline):

- **Integrating public transit systems and agencies:** HTA must collaborate closely with other public transit agencies (e.g. ATM, AMA, PRITA) to integrate Tren Urbano’s operations with their bus and ferry networks:
 - › Adopt a single farecard for all transit systems
 - › Harmonize fares and schedules across Tren Urbano, buses, and ferries
 - › Design a coordinated network of routes, creating high-frequency trunks with timed transfers to a useful branch network
 - › Pool data to develop better scheduling and routing
 - › Redesign the physical landscape around transit stations to make them more accessible for pedestrians and increase their visibility
- **Coordinating public transit systems with private transport networks:** HTA must also collaborate more closely with private transport networks (e.g.,

Públicos, Ridesharing Services), which carry approximately 21 million passengers per year.⁶² The joint implementation of fare integration, station redesign, schedule integration, and multi-modal trip planning capabilities between HTA and private transport networks would make transportation services more available and accessible, and increase ridership.

- **Improving curb management practices:** HTA must work with the Commonwealth and local municipal authorities to promote innovative curb management practices (e.g., dynamic pricing for on-street parking, and replacing on-street parking with drop-off zones). These programs will encourage commuters to use public transit, decrease congestion, and increase Tren Urbano's revenues.
- **Promoting Transit-Oriented Development (TOD) around Tren Urbano stations:** Consistent with its legal mandate, HTA must identify any regulatory requirements that prevent or impact the development of real estate in the vicinity of transit stations (e.g., zoning restrictions, setback requirements, parking minimums). It would then use this assessment as it works with the Commonwealth and local municipal authorities to change regulations so they facilitate TOD, increase community accessibility to public transport, and generate more traffic around transit stations.
- **Expanding Bus Rapid Transit (BRT) and integrating it with Tren Urbano:** HTA must also invest in expanding its own infrastructure. Increasing the scope and frequency of its BRT operations will help it reach neighborhoods that do not currently have existing Tren Urbano feeder bus lines. To accomplish this, the Authority must work closely with DTOP and local municipal authorities to create more dedicated spaces for BRT operations (e.g., special road lanes and off-board collection areas).

The implementation of these transit improvements would have multiple positive effects for Puerto Rico's broader community and for HTA. It would decrease the average commute time of San Juan residents, make workers more productive, improve mobility, and reduce the need to own a car. In doing so, it would increase Tren Urbano's ridership from approximately 5M to 17M passengers per year and Tren Urbano's fare revenues from approximately \$7M to \$22M per year by FY49.

⁶² "Annual unlinked trips by Públicos", Puerto Rico Long Range Transportation Plan, p. 123, Found online at: http://lrtp.steergroup.com.co/wp-content/uploads/2018/12/PR-Island-wide_FINAL.pdf.

Exhibit 40: Impact of transit fare measures, FY21-49

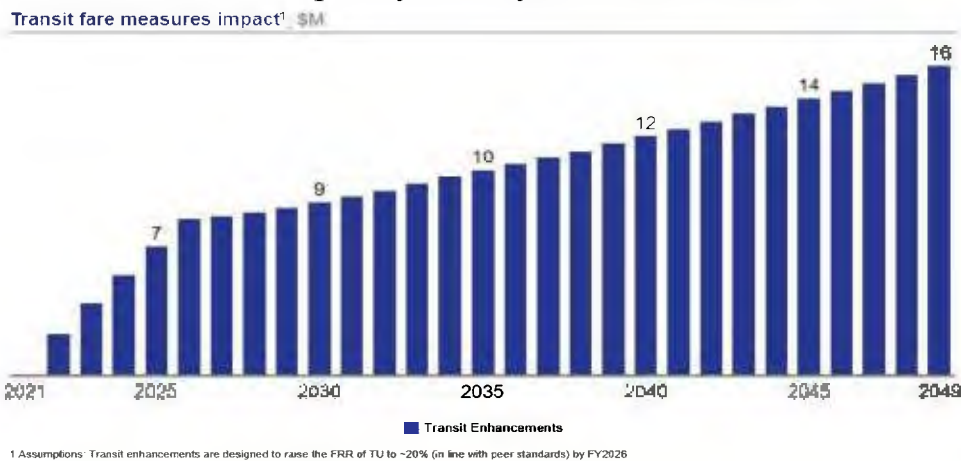


Exhibit 41: Required implementation actions for expanding transit revenues

Measure	Action item	Responsible party	Deadline
Integrate transit assets under a unified PRITA	Collaborate with other transportation entities to ensure transit system integration and asset transfers as needed (as per CW Fiscal Plan)	HTA, ATM, PRITA, DTOP, and AAFAF	December 31, 2020
Integrate transit networks	Adopt single farecard across systems	HTA, ATM, and PRITA	December 31, 2020
	Harmonize fares, routes, and schedules across systems	HTA, ATM, and PRITA	December 31, 2020
	Begin partnerships with private transport networks	HTA, PRITA, Private networks	April 30, 2021
Promote TOD	Identify barriers that prevent denser development near transit	HTA, ATM, and PRITA	January 31, 2022
Expand Bus Rapid Transit (BRT)	Identify potential new BRT lines	HTA	June 30, 2021
	Create more dedicated BRT spaces (e.g., special road lanes and drop-off zones)	HTA, Commonwealth, and Municipalities	November 30, 2021
Implement TU improvements	Enhance TU ridership rules	HTA	October 31, 2020
	Complete repair of Point of Sale (POS) machines to enable credit card usage	HTA	June 30, 2021

11.5) Introducing new congestion management mechanisms

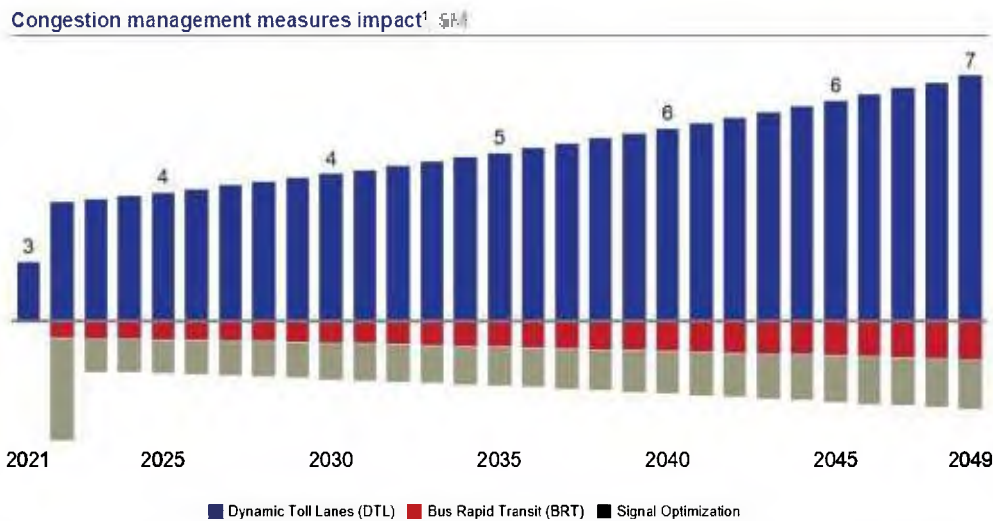
San Juan is the 25th most congested city in the United States, with 46 hours lost annually per driver in congestion during peak commute periods; this increases annual commuter costs by approximately \$400M (e.g., increased vehicle operating costs).⁶³ Congestion management measures not only can address these productivity losses and promote economic growth, they can also generate an estimated \$13M for the Authority by FY25 and \$140M by FY49 through the following investments, which HTA must implement:

- **Create new Dynamic Toll Lanes (DTL):** DTLs will increase tolls for drivers during peak hours, motivating them to ride-share or use public transport. These lanes should be operational from Q3 FY21 onwards and are projected to generate approximately \$26M by FY25 and \$229M by FY49.
- **Create a new BRT line:** A new BRT line from Caguas to San Juan should be operational by Q1 FY22. The addition of this BRT line is not expected to generate a positive fiscal impact, because it requires approximately \$47M in costs by FY49 but only collects approximately \$13M in revenues. However, its development and implementation is necessary to provide residents of Caguas and surrounding areas access to reliable transportation services to the San Juan metropolitan area. In addition, it will ultimately increase ridership of Tren Urbano's feeder bus network by ~75% by the end of FY22.
- **Optimize traffic signals:** HTA must continue to synchronize traffic signals in critical intersections. This will facilitate the flow of traffic in major urban traffic arteries and significantly reduce the burden on commuters during high traffic-volume hours. It will require an upfront investment of approximately \$4.7M in FY22 and about \$1.5M in annual maintenance investments until FY49.

Exhibit 42 shows the combined impact of these three initiatives and Exhibit 43 shows their implementation timeline.

⁶³ INRIX 2019 Scorecard Report, Found online: <https://inrix.com/scorecard-city/?city=San%20Juan%2C%20PR&index=163>.

Exhibit 42: Impact of congestion management measures, FY21-49



1 Assumptions: DTL revenues begin from a baseline of ~\$5.5M per year and increase 2.07% after FY23 (2% increase in fares and 0.07% increase in traffic) / BRT revenues assume a daily ridership of 1,150 people (that moves in line with PR's Real GNP), a fare of \$2 and 220 days of operation every year / BRT costs assume an annual cost of ~\$1.3M that increases by 2% every year / Signal optimization costs account for an upfront cost of ~\$3.2M and an annual maintenance cost of ~\$1.5M that increases in line with inflation

Exhibit 43: Required implementation actions for introducing new congestion management mechanisms

Measure	Action item	Responsible party	Deadline
Introduce new congestion management mechanisms	Complete planned DTLs	HTA	December 31, 2020
	Begin operation of planned BRT line	HTA	June 30, 2021
	Begin traffic signal optimization	HTA	August 31, 2021

11.6) Collecting more discretionary funds

While HTA receives annual funding from FHWA and FTA to support its capital improvement program, it also has the opportunity to access additional federal funding sources and collect an approximately \$0.2B more in discretionary funds through FY25 and \$1.5B in discretionary funds through FY49. To improve HTA's governance, accountability, and internal controls, it must invest part of this (approximately \$0.2M per year, adjusted for inflation) to recruit and retain a robust grant management team.

HTA must pursue its fair per capita share (1%) of total discretionary grants for highway construction (e.g. INFRA⁶⁴ and BUILD⁶⁵), securing \$24M of grants on an annual basis after an initial ramp up period of three years. It could invest these grants in construction




⁶⁴ Infrastructure for Rebuilding America.

⁶⁵ Better Utilizing Investments to Leverage Development.

projects that increase system capacity or fulfill other strategic goals of HTA. Simultaneously, it could continue to invest its funding from the Commonwealth and FHWA in maintenance projects that keep the roads and highways in a State of Good Repair.

The Authority must also pursue its fair per capita share of discretionary grants for transit projects that improve and expand transit capacity (e.g., CIG).⁶⁶ It would be able to potentially secure \$28M in grants annually after an initial ramp up period of five years. HTA could use these revenues to make capital investments (e.g., acquiring BRT buses and expanding the BRT network) that would expand the scope of its transit operations and increase farebox recovery.

Exhibit 44: Major sources of federal discretionary funds

Grant	Total national funds ¹ , \$M	Priorities	Eligible projects
	906	<ul style="list-style-type: none"> Supporting projects that contribute to economic vitality and that employ innovative delivery methods 	<ul style="list-style-type: none"> Projects on the National Freight Highway Network (NHFN) Projects that add capacity to the National Highway System (NHS)
	1000	<ul style="list-style-type: none"> Enhancing safety, environmental sustainability and securing a state of good repair for surface infrastructure 	<ul style="list-style-type: none"> Road and bridge construction Public transportation projects Intermodal projects
	2800	<ul style="list-style-type: none"> Promoting mobility improvements, congestion relief and economic development 	<ul style="list-style-type: none"> Public transport infrastructure improvement and expansion (rolling stock acquisition, platform expansion, ROW acquisition)
<p>In addition to these grants, HTA could also pursue part of the \$18.5B CDBG funds that are currently available for Puerto Rico in order to make highways / TU more resilient to natural catastrophes</p>			

1 In FY20 only, 2 Excluding projects that are explicitly classified as pertaining to DTL
SOURCE: www.transportation.gov, www.transit.dot.gov

Exhibit 45: Required implementation actions for collecting more discretionary funds

Measure	Action item	Responsible party	Deadline
Collect discretionary grants	Hire discretionary grant management team	HTA	December 31, 2020
	Identify high-potential discretionary grants and compile a list of eligible projects, focusing on gaps in	HTA	January 31, 2021

⁶⁶ Capital Investment Grants.

Measure	Action item	Responsible party	Deadline
	HTA's current application strategy		
	Begin preparing discretionary grant applications and collecting all necessary supporting documents	HTA	March 31, 2021

CHAPTER 12: FISCAL MEASURES: OPERATING EXPENSE OPTIMIZATION

The following 4 fiscal measures will enable HTA to reduce its costs by approximately \$0.5B over a 30-year period, thus delivering approximately 10.5% of the total fiscal measure impact:

1. Reducing pension costs in accordance with the Commonwealth Certified Fiscal Plan: \$0.1B (~1%)
2. Reducing healthcare costs in accordance with the Commonwealth Certified Fiscal Plan: \$0.1B (~1.5%)
3. Eliminating the Christmas Bonus of HTA employees: 0.05B (~0.5%)
4. Reassessing Tren Urbano contracts: \$0.3B (~7.5%) (although this figure is a target and will be subject to the outcome of a competitive bidding process)

12.1) Reducing pension costs to meet the targets of the Commonwealth

In order to be consistent with the Commonwealth Fiscal Plan and agreement reached with the Committee of Retirees in the Title III court, HTA must decrease pension expenses by 8.5% per year from January 2022 onwards (Exhibit 46). The reductions will follow the structure of the adjustments made in the Commonwealth Plan and provide protection for those who are close to the poverty level, exempting those with monthly pension benefits of less than \$1,200 per month. They will not reduce anyone's monthly payments below this level. HTA will save \$51 million in costs from FY22-49, which will help the Authority focus on improving Puerto Rico's infrastructure and providing services, while eliminating structural deficits.

Exhibit 46: Annual Pension Savings, FY21-49

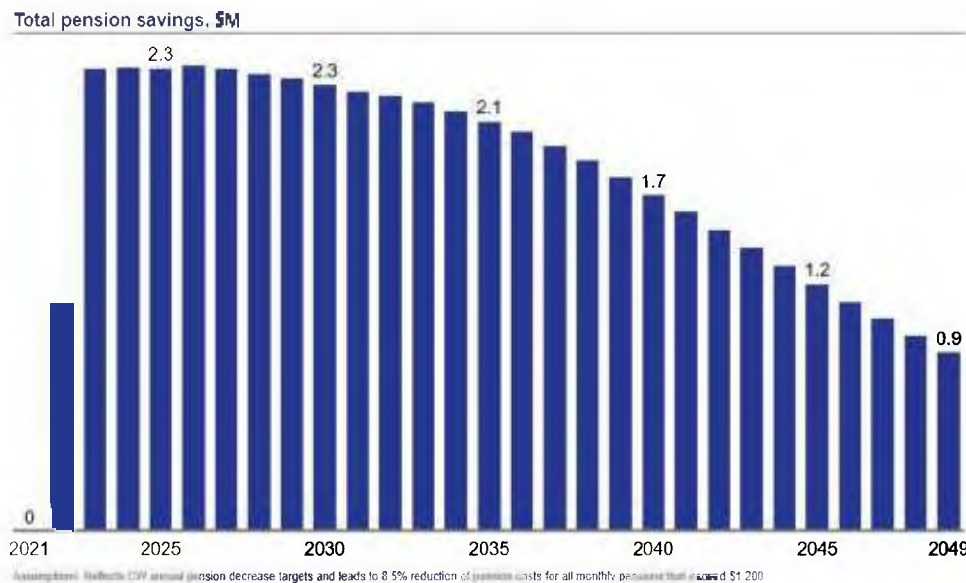


Exhibit 47: Required implementation action for reducing pension costs

Measure	Action item	Responsible party	Deadline
Reduce pension costs	Implement pension reductions of 8.5%	HTA	December 31, 2021

12.2) Reducing healthcare costs

To eliminate structural deficits and enable the achievement of the fiscal targets contained in the Fiscal Plan, HTA must adjust the current health care plan for its employees so it aligns with the health benefits of other government agencies per the Commonwealth Certified Fiscal Plan. This action will bring its healthcare costs in line with the average healthcare costs of similarly sized private-sector companies. It assumes an average *employer* contribution of \$125 per employee per month for those who do not have preexisting conditions and \$450 per employee per month for all others. As a public corporation, HTA has the option to participate in the private insurance market in a manner similar to any private corporation in Puerto Rico. These figures will be adjusted for inflation over time. The costs also include an annual 3% attrition rate that occurs until FY25. There is a hiring freeze until that point, which explains the temporary decrease in costs and gradual increase thereafter. This measure will generate an average annual savings of \$2 million, or \$67M in total savings for the 30-year Fiscal Plan period from Q3 FY21 until FY49 (Exhibit 48).

Exhibit 48: Annual Uniform Health Savings, FY21-49

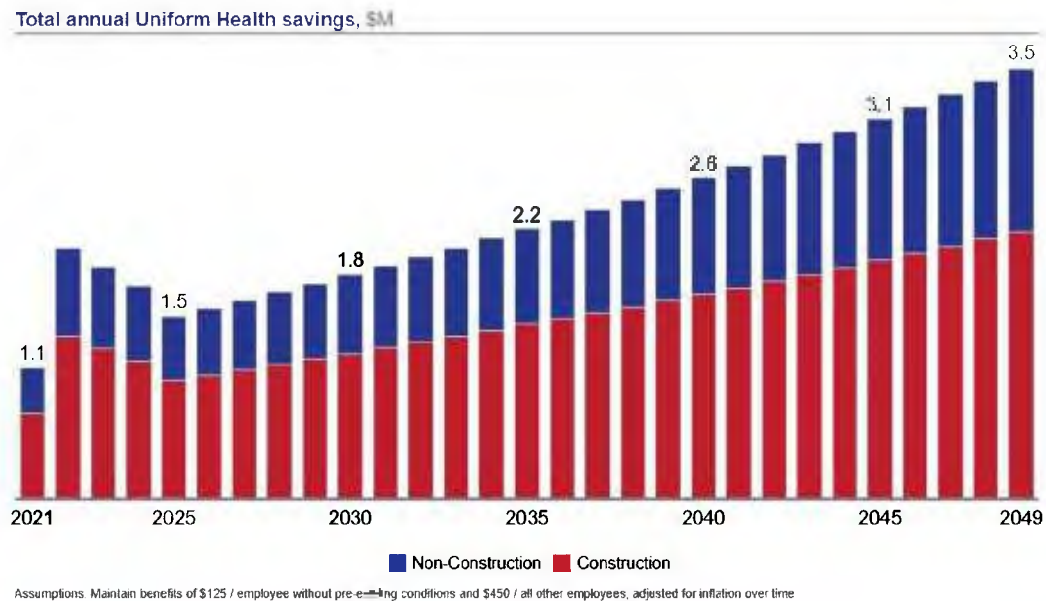


Exhibit 49: Required implementation actions for healthcare costs

Measure	Action item	Responsible party	Deadline
Reduce healthcare costs	Develop RFP to find and identify new healthcare provider at uniform rates established in Fiscal Plan	HTA	July 31, 2020
	Select new healthcare provider	HTA	September 30, 2020
	Finalize new healthcare insurance contract and submit to FOMB for review	HTA	November 30, 2020
	Begin new healthcare insurance contract	HTA	December 31, 2020

12.3) Eliminating the Current Christmas Bonus

Given HTA's current insolvency, it is presently unable to pay out a Christmas bonus to its employees. HTA must eliminate the annual Christmas bonus to eliminate structural deficits and enable the achievement of the fiscal targets contained in this Fiscal Plan. Eliminating the annual Christmas bonus will save an average of ~\$0.5 million per year

from FY21 to FY49, with a combined total savings of \$15M throughout this 30-year time period (Exhibit 50). The estimated savings include the impact of natural attrition pre-FY25 and inflation-based increases post-FY25.

Exhibit 50: Christmas Bonus Elimination Savings, FY21-49

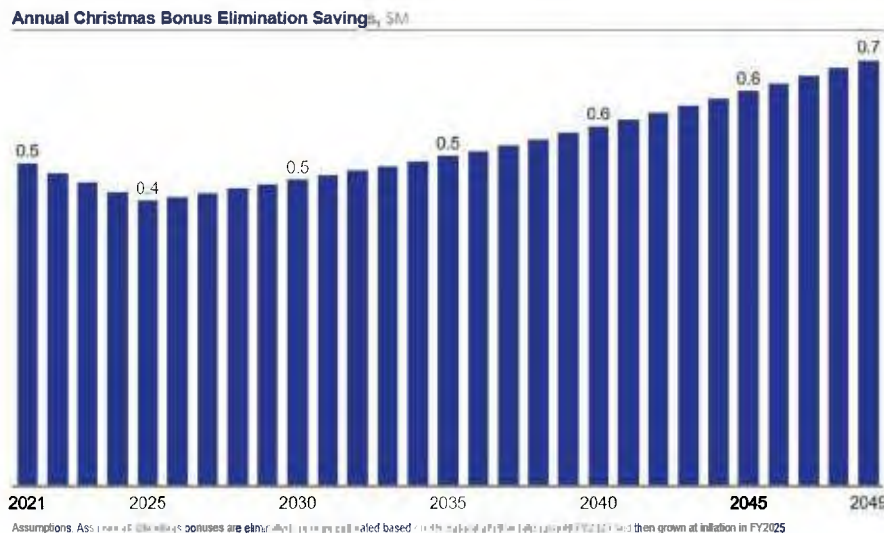


Exhibit 51: Required implementation actions for eliminating Christmas bonus

Measure	Action item	Responsible party	Deadline
Eliminate Christmas bonus	Announce elimination of Christmas Bonus	HTA	August 31, 2020

12.4) Reassessing Tren Urbano contracts

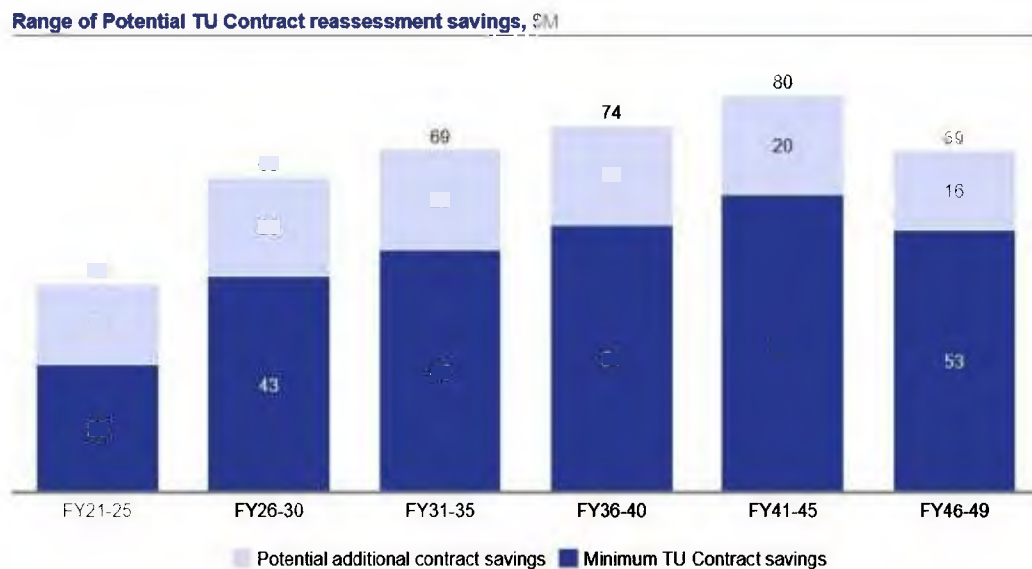
HTA currently has several operating contracts with third-party providers that help support Tren Urbano transit, design, and construction, and / or provide other functions that HTA does not directly support. Several of these operating contracts, however, are on the higher end of benchmarks for peer costs; the Authority must try to obtain better, more competitive pricing. These contracts are frequently above benchmark because the contracts: (i) do not reflect HTA's current operating environment; (ii) include fuel costs from earlier periods when these costs were higher or expected to grow more rapidly; and (iii) price in the risk of HTA not making a payment into their contracts.

PROMESA provides a unique opportunity for HTA to improve contract terms or reassess outdated contracts. Consequently, to ensure the fiscal targets contained in this Fiscal Plan are achieved, and structural deficits are eliminated, HTA must explore whether it can

conduct competitive procurements that would identify ways to reduce costs and improve current Tren Urbano agreements. Although costs must be a primary concern, these new contracts must also increase performance standards and counterparty accountability for providing better services. Such agreements will improve HTA's standing and enhance Tren Urbano's farebox recovery ratio so it comes into line with its own public transportation peers.

Re-evaluating the operating contract of Tren Urbano could generate ~\$300-400M in savings from Q4 FY22 to FY49 (Exhibit 52). This figure will be subject to the outcome of a competitive bidding process.

Exhibit 52: Range of Potential TU Contract reassessment savings, FY21-49



Assumptions: Assumes that the costs of the new Tren Urbano Operating Contract will be comparable to the cost of similar contracts in peer transportation authorities / The June 2020 Fiscal Plan assumes the mean of this range as its base scenario

Exhibit 53: Required implementation actions for reassessing Tren Urbano contracts

Measure	Action item	Responsible party	Deadline
Reassess Tren Urbano contracts	Begin reassessment of Tren Urbano operating contract	HTA/PRITA/P3A	October 31, 2020
	Launch a competitive procurement process for Tren Urbano operating contract	HTA/PRITA/P3A	February 28, 2021
	Select new Tren Urbano operator	HTA/PRITA/P3A	August 31, 2021

Measure	Action item	Responsible party	Deadline
	Draft new operating contract and submit to FOMB for review	HTA/PRITA/ P3A	November 30, 2021
	Begin operation of Tren Urbano under new contract terms	HTA/PRITA	February 28, 2022

CHAPTER 13: CAPITAL EXPENSE OPTIMIZATION

Over the last 20 years, HTA has invested about \$10B in infrastructure, including the construction of the new Tren Urbano system. To maintain a State of Good Repair, HTA would potentially need to spend approximately \$10.5B by FY49. HTA must make these expenditures to improve, rehabilitate, and preserve existing roadways, to make necessary capital expenditures to promote economic growth across the Island. It is critical for all the Island's residents. As covered previously in in Part III "Infrastructure Agenda," the current state of Puerto Rico's transportation network serves as an impediment to economic development and business investment. This go-forward investment of \$10.5B to upgrade the condition of Puerto Rico's roads to a SOGR and maintain them in that condition, creates the basics necessary for Puerto Rico to attract and retain residents and business activity.

The Authority must have an effective and efficient capital program to achieve this ambitious investment program, but achieving this will be challenging given HTA's history of delayed projects that were regularly over-budget. HTA must increase revenues in order to have the resources for the capital programs. Capital project spending optimization must be sufficient to reduce HTA's expenses by approximately \$0.2B over a 30-year period, delivering 4% of the total fiscal measure impact. It will also help HTA ensure its projects are delivered on-time and on-budget, by making good use of scarce resources for capital projects

13.1) Optimizing Construction Costs

HTA must prioritize its projects and delivery more efficiently to maximize the value of its investments in the transportation system. Based on peer benchmarks and internal examples of success, these efforts must reduce current capital project spending requirements by 4% or more, without impacting the quality and outcomes of projects, to ensure the fiscal targets contained in this Fiscal Plan are achieved.

Project prioritization

Poor project planning can be a result of failing to link infrastructure planning to the organization's broader social and economic goals; underestimating costs; overstating benefits; or bowing to political pressure. Many transportation authorities that have adopted portfolio prioritization have achieved up to 5% efficiency benefit, which can be

reallocated to new capital infrastructure investments.⁶⁷ Even achieving the low end of that range could provide Puerto Rico with significant savings.

In FY19, HTA formalized its project prioritization framework (Exhibit 54).⁶⁸ The framework weighs decision criteria to prioritize safety, system performance, and ways to extend the life of transportation assets. It then connects these criteria to the Long Range Transportation Plan's (LRTP) goals. Using this framework will be crucial during FY21 as HTA prepares a 30-year investment plan while recovering from natural disasters. The Authority must start implementing the framework immediately if it is going to create a successful plan, begin to capture benefits, and implement necessary capital expenditures to promote economic growth.

Exhibit 54: HTA Prioritization Framework of CIP

Achieve a state of good repair	System Performance	30	<ul style="list-style-type: none"> Improve/maintain condition of capital assets
Improve performance of most critical corridors	System Performance; Economic Vitality; Mobility and Accessibility	25	<ul style="list-style-type: none"> Improve intersection performance, system bottlenecks, and transit Increase operational capacity in a cost effective manner Improve performance of freight and high travel corridors Prioritize the completion of projects which connect to ports and economic centers, and complete the island's strategic highway network
Resiliency, safety, and emergency response	System Performance; Environmental Sustainability	20	<ul style="list-style-type: none"> Improve safety, resiliency, and emergency response Improve resiliency and emergency response Reduce reliance on motorized travel, promote energy efficiency, and incorporate "reduce, reuse, recycle", practices in delivering infrastructure
Promote alternative modes of travel	Environmental sustainability; Mobility and Accessibility	15	<ul style="list-style-type: none"> Invest in redevelopment of urban centers to reduce need for motorized travel Improve coverage, capacity, and service of alternative modes of travel Improve modal connectivity (first mile/last mile) Improve coverage, capacity, and service of alternative modes of travel
Ensure cost effectiveness	Mobility and Accessibility	10	<ul style="list-style-type: none"> Cost effectiveness assuming mobility benefits Provide mobility for transportation-disadvantaged populations

Project delivery optimization

Delivering more project efficiency would greatly benefit HTA. Savings from project delivery optimization and soft cost optimization should be redirected to fund new projects (Exhibit 40). There are several enhancements to project delivery and soft cost optimization that HTA must implement to improve accountability and internal controls, which would support achieving the efficiency benefits, including but not limited to:

⁶⁷ McKinsey Global Institute Report, "A Better Road to the Future", 2018, p. 21.

⁶⁸ 2019 Certified Fiscal Plan for HTA, p. 42.

- **Improve project definition:** HTA must streamline the project definition process. Specifically, it should standardize processes for each project type rather than creating a new process for each project.
- **Standardize design and engineering:** HTA must develop standard design packages to reduce the time spent reviewing designs for various projects, while working with stakeholders early in the design process. Upfront planning is critical to avoid cost overruns later, given the costs associated with redesigns.
- **Enhance procurement and contract approaches:** HTA must take a more strategic approach to sourcing by improving the bid process and leveraging new contract types. It should prequalify bidders and leverage new contract structures to capture the most value. For example, greater use of Design-Build (BD) which HTA has used in the past, notably for the PR-66 (Carolina to Canovanas) projects in the 1990s, resulted in some of the best examples of successful delivery.
- **Enhance construction management:** Upfront planning with all necessary stakeholders at the start of construction will create a smoother process. Ensuring synchronization between related tasks, rethinking the sequence of construction activities, and ensuring that projects are staffed correctly are some initiatives HTA must pursue. The Authority must examine its inhouse construction team to assess capabilities, approaches to in-sourcing vs out-sourcing, and organization resources required for the capital program.
- **Streamline project close-out:** Improving the closeout process will improve efficiency and is a core priority of the FHWA MOU. For example, HTA must incorporate FHWA-approved process improvements (e.g., pay-item sampling) to speed invoice processing. Procuring an electronic records management system can help HTA improve collection and retention of the required contractor documentation. These improvements are included in the FHWA-HTA MOU and are discussed in greater detail in Chapter 3.

HTA must undertake a comprehensive diagnostic of the gaps between its performance, processes, and capabilities and best practices. It must document its processes across the project pipeline (e.g., project definition, design and engineering, procurement, construction, and closeout). It can then determine whether these processes are standardized across projects and where the optimization opportunities are. By codifying these processes, HTA can compare itself to best-in-class transportation agencies and determine where it can increase efficiencies and gain cost savings.

Exhibit 55: 4% Capital Delivery Optimization Opportunity

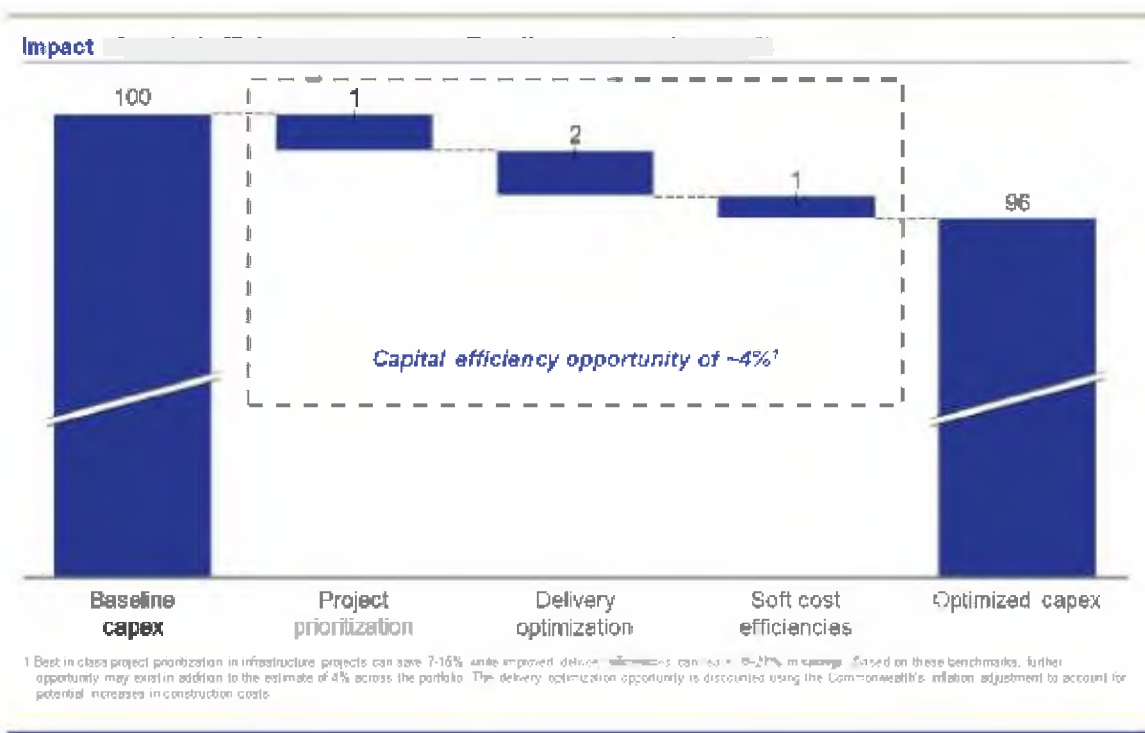


Exhibit 56: Required implementation actions for capital expenses

Measure	Action item	Responsible party	Deadline
Optimize Capital expenses	Conduct analysis to identify CapEx delivery optimization and soft cost efficiency opportunities including:	HTA	December 31, 2020
	Determine set of projects that would benefit most from creation of standard project definition workflows (e.g., commonalities, frequencies)	HTA	December 31, 2020
	Determine set of projects that would benefit most from creation of standard design packages (e.g., number of stakeholders, frequencies)	HTA	December 31, 2020
	Scan existing portfolio of projects in pre-construction and identify opportunities to leverage alternative procurement methods	HTA	December 31, 2020

	Identify capability gaps within in-house construction team	HTA	December 31, 2020
	Pilot improvements to address opportunities areas identified in capital delivery diagnostic	HTA	March 31, 2021
	Create, and put into use, standard project definition workflows for initial set of projects	HTA	March 31, 2021
	Create, and put into use, standard design packages for initial set of projects	HTA	March 31, 2021
	Create alternative procurement RFP(s) for eligible projects	HTA	March 31, 2021
	Create plan to address capabilities gaps (e.g., outsourcing, training) within the construction team	HTA	March 31, 2021
	Incorporate FHWA-approved process improvements (e.g., pay-item sampling) to expedite invoice processing in project close-out	HTA	March 31, 2021
	Procure electronic records management system to facilitate efficient project close-outs	HTA	October 31, 2021

CHAPTER 14: CONCESSION OPPORTUNITIES

Concession opportunities on key roads (e.g., PR-20, PR-52, PR-53, and PR-66) must be evaluated as a potential method for HTA to secure additional capital inflows, improve operations, improve infrastructure to promote economic growth, generate innovation, and ultimately guarantee citizens and businesses access to a well-maintained and safe highway system. Concessions can also attract private investment and enhance Puerto Rico's competitiveness by modernizing the Island's highways system, increasing mobility and economic activity across different geographical areas. In addition to enhancing toll system operations and outcomes, concessions also present an opportunity for the government to secure elevated capital inflows that could be used to finance projects not currently funded in the 2020 Fiscal Plan. Concessions can help generate upfront capital for the government and can create bandwidth for the development of greenfield projects such as highway capacity enhancement and network extensions.

The need to provide safe, efficient and well-maintained transport alternatives throughout Puerto Rico is evident. With the current highway network playing a critical role in Puerto

Rico's road infrastructure, quality of life, and economic development, the need for HTA to achieve a state of good repair, sustainable operation, capital investment, and extensions must remain a primary concern. Concessionaire operated toll-roads have seen marked improvements in road quality and safety and increased levels of investments in maintenance projects, as well as access to ancillary services, such as road-side assistance. A well-structured partnership with private-sector participants can help bring long-term and sustained innovation into the operation and maintenance of toll-roads, ultimately benefiting Puerto Rico's citizens and businesses who are able to enjoy an efficient transportation system. However, successful concession agreements, such as the one currently in place for PR-22 and PR-5 since 2011, require long term financial stability, cash availability, low political risk, and market traction, all of which HTA currently does not possess.

For HTA to pursue long-term concession agreements and benefit local infrastructure, depoliticization of the current road and other assets operated by HTA must be addressed. Furthermore, HTA must address the deficiencies in its revenue-generating operation from non-sustainable decisions such as unnecessary toll fine and toll fare moratoriums. To enable the fiscal targets contained in this Fiscal Plan to be achieved, HTA must instead take swift action to make road and other assets attractive by enhancing and stabilizing revenue streams as a first step to future concession opportunities, including the implementation of fare increases and re-start of toll fine collections.

Exhibit 57: Required implementation actions for pursuing concession opportunities

Measure	Action item	Responsible party	Deadline
Pursue concession opportunities	Evaluate and prioritize potential areas for additional concessions led by 3 rd party	HTA/P3A	August 31, 2021
	Finalize evaluation on feasibility and desirability study of opportunities	HTA/P3A	December 31, 2021
	Finalize and share with FOMB detailed opportunity by opportunity execution plan for prioritized concession opportunities	HTA/P3A	April 30, 2022
	Launch RFP(s) for prioritized concessions	P3A	Based on execution plan and aligned with legal constraints
	Begin first new concession agreement	HTA/P3A	Based on execution plan and aligned with legal constraints

PART VI – LIQUIDITY SITUATION

CHAPTER 15: CASH POSITION OF HTA

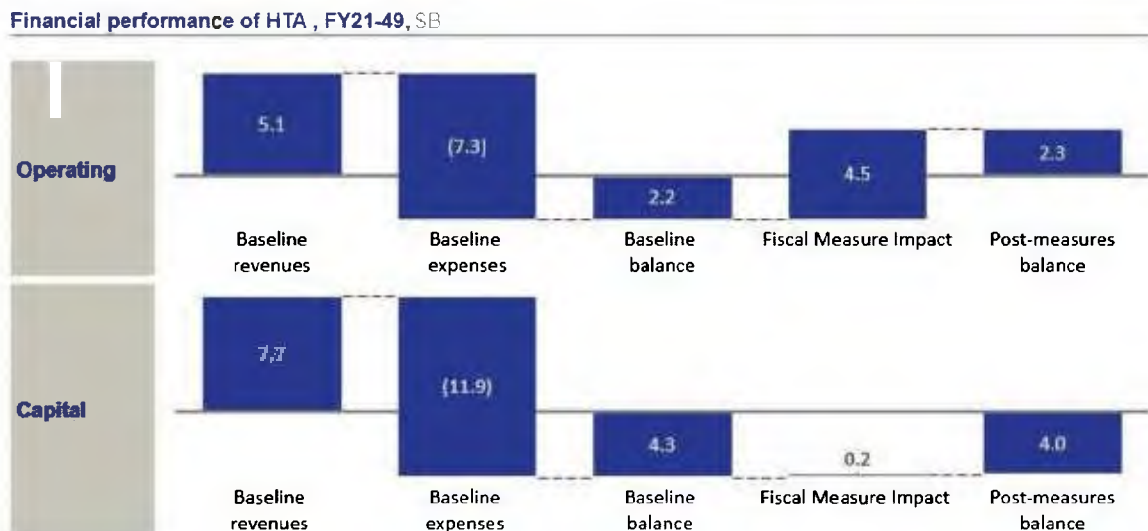
If HTA fully implements all the measures in the Plan on time, it could achieve operational surpluses as early as FY24. These could cover some of its capital expenses and expand investments in roads and transit systems. From FY21 to FY49, the Authority would have an operational surplus of approximately \$80M and a capital deficit of about \$140M per year on average. This would produce a total cumulative surplus of approximately \$2.3B in OpEx and a total cumulative deficit of about \$4.0B in CapEx. HTA would therefore have an aggregate (OpEx & CapEx) cumulative deficit of approximately \$1.7B over the course of the Plan (Exhibit 58).

However, if the measures outlined in the 2020 Certified Fiscal Plan are not implemented, the Authority will likely have an operational deficit of approximately \$75M and a capital deficit of approximately \$147M per year on average from FY21 to FY49. Its total cumulative deficit would be about \$2.2B in OpEx and approximately \$4.3B in CapEx.

This situation would be financially unsustainable and would jeopardize Puerto Rico's future infrastructure development. It would also lead to deteriorating road conditions and worsening congestion.

Under both scenarios (full implementation or lack thereof), HTA is projected to operate at a net deficit, risking its capability of delivering transit and transportation investments needed to improve Puerto Rico's overall economy without the significant transfers from the Commonwealth described herein. Given the projected deficits even with implementation of the measures outlined in this Fiscal Plan, HTA's existing debt is completely unsustainable.

Exhibit 58: Financial Performance of HTA FY21-FY49



CHAPTER 16: COMMONWEALTH TRANSFER

Whereas the 2019 Certified Fiscal Plans for both HTA and the Commonwealth maintained a fixed transfer, the 2020 Fiscal Plans transitions to a variable transfer⁶⁹ tied to funding required to meet HTA's operational expenses and capital program needs (including a reserve for these expenditures as described below). This funding level is based on projections of the Fiscal Plan, assuming full and successful implementation of the fiscal measures. Due to the Commonwealth's own fiscal challenges as set forth in its certified Fiscal Plan, the Commonwealth is unable to transfer any funds to HTA for any other purpose.

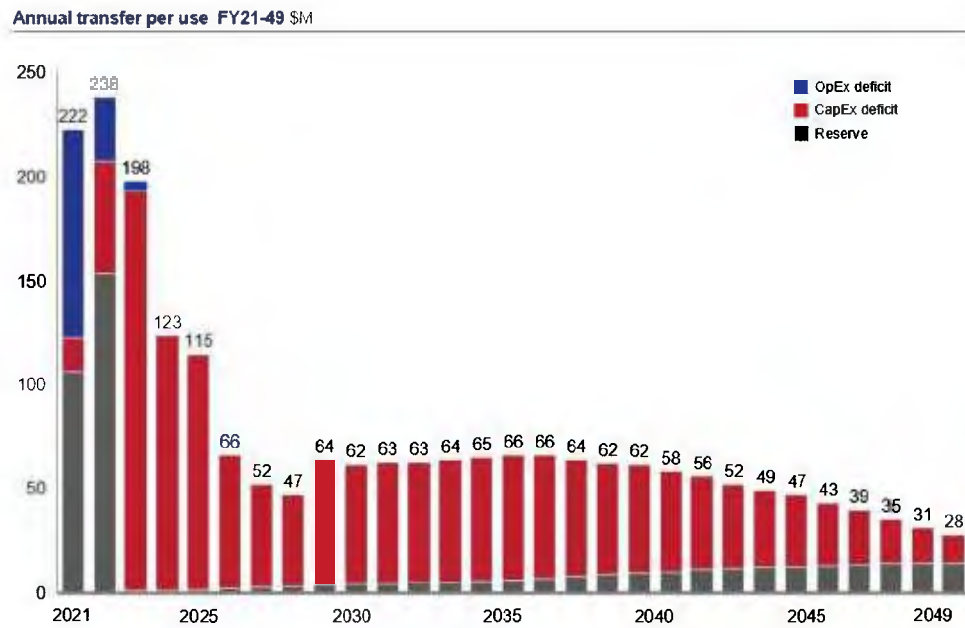
The Commonwealth also funds an emergency reserve equal to three to six months of operational and capital delivery required funding. The emergency reserve cannot be accessed by HTA without FOMB approval. The emergency reserve will reach approximately \$260M by FY22, based on reserve funding levels in comparable U.S. jurisdictions. The emergency reserve will be adjusted each year to keep up with inflation. The Commonwealth's transfers to fund HTA's operating and capital deficits and the emergency reserve is projected to unfold as follows:

- Over the first three years (FY21-23), HTA maintains operational deficits and builds up its required emergency reserve. During this period, the Commonwealth transfer would total about \$219M per year on average, calculated based on HTA's additional needs for operating expenses and the need to build the emergency reserve. During these years, ~\$45M of the Commonwealth transfer would be allocated to OpEx, ~\$87M would be allocated to CapEx and ~\$87M would be allocated to an emergency reserve for unforeseen needs and outstanding obligations to other public entities from prior years.
- In the remaining years of the 2020 Certified Fiscal Plan (FY24-49), HTA should achieve operational surpluses which it will use to partly fund its CapEx deficits. The level of emergency reserve adjusts based on inflation. The Commonwealth transfer would therefore total approximately \$59M per year, with about \$51M per year allocated to CapEx and about \$8M per year to the emergency reserve.

A more detailed description of the Commonwealth transfer is provided in Exhibit 59. For each year, the amount of transfer that is going towards building the reserve, filling an OpEx deficit, or filling a CapEx deficit, is noted.

⁶⁹ Any transfer from the Commonwealth is appropriated pursuant to the FOMB's budgetary powers, from revenues that are the Commonwealth's property and that are not pledged or appropriated to any other entity under any statute or bond document.

Exhibit 59: Annual Commonwealth Transfer to HTA per use, FY21-FY49



PART VII – DEBT SUSTAINABILITY

CHAPTER 17: POST-MEASURES DEBT SUSTAINABILITY

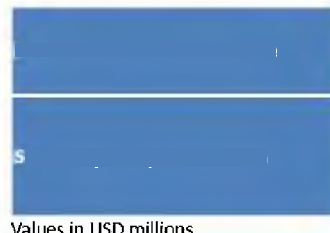
HTA currently is carrying approximately \$6 billion in debt. Since HTA entered Title III in May 2017, HTA has had insufficient cash flows to service its outstanding debt and as a result has not made payments since July 2017. Given that (a) HTA's revenues are insufficient to fund its operating expenses, projected capital improvement needs, and an emergency reserve without approximately \$2.2B in appropriations from the Commonwealth during the 30-year period covered by this Fiscal Plan, and (b) the Commonwealth's own fiscal challenges during this period will preclude any further appropriations to HTA, HTA's existing debt is not sustainable and requires significant adjustment under Title III.

As discussed in Chapter 15, even with implementation of the measures described in this Fiscal Plan, HTA is projected to have a cumulative deficit of negative \$1.7 billion. In Chapter 16, the Fiscal Plan discusses a variable transfer from the Commonwealth to help with operations, capital needs and to help HTA build up an emergency reserve. Following a near-term period of operating deficits as Fiscal Plan measures are implemented, HTA is expected to have operational surpluses that will fund a greater share of capital needs from its own resources. Further assistance from the Commonwealth, however, will be required for capital and reserve requirements for the entire 30-year period.

The amount of net revenues available for other needs besides implementation of the crucially important State of Good Repair capital improvement program, such as the payment of debt service, are also highly dependent on the Authority achieving additional positive cash flow to enable HTA eventually to operate at a surplus without the projected Commonwealth variable transfer requirement. The Fiscal Plan utilizes the following matrix to illustrate the implied debt capacity over a 30-year period assuming level debt service at differing coupon levels and varying hypothetical levels of net revenues available for debt service throughout the 30-year period. For example, if the net revenues available for debt service are \$50 million for 30 years and the coupon level is 5%, the implied debt capacity would be \$769 million. For purposes of the matrix analysis, the Fiscal Plan is analyzing the debt capacity to the assumed net revenues at 1.0x coverage to debt service, however any amount of debt service structured for HTA in the future will require a minimum of 1.25x coverage or greater to the projected net revenues to account for future uncertainty in the net revenue projections.

Exhibit 60: Implied Debt Capacity

- The following matrix illustrates, for varying coupon levels and primary surplus, or net revenue, figures, the amount of restructured HTA debt that could be supported by that surplus level.
- The matrix assumes a 30-year, level debt service payment structure and only one-time coverage of net revenues to debt service.



Values in USD millions

Sensitivity Analysis: Implied Debt Capacity at 1.0x Coverage

	\$25	\$50	\$75	\$100
4.0%	\$432	\$865	\$1,297	\$1,729
5.0%	\$384	\$769	\$1,153	\$1,537
6.0%	\$344	\$688	\$1,032	\$1,376

APPENDIX A – IMPLEMENTATION PLAN & REPORTING REQUIREMENTS

CHAPTER 18: COMPREHENSIVE IMPLEMENTATION PLAN REQUIRED ACTIONS⁷⁰

Measure	Action item	Responsible party	Deadline
Roll out HTA productivity reporting	Create template for required reporting data and share with HTA staff for review	FOMB	July 15, 2020
Roll out HTA productivity reporting	Hold working session with HTA and relevant advisors to discuss productivity reporting cadence, objectives, and required detail	HTA / FOMB	July 31, 2020
Adopt Capital Delivery KPIs	Adopt capital delivery KPIs that are laid out in this Plan	HTA	July 31, 2020
Increase toll fare revenue	Introduce optimized electronic fare collection system	HTA	July 31, 2020
Increase toll fare revenue	Hold sessions informing public of upcoming fare adjustments	HTA	July 31, 2020
Increase toll fine revenue	Resume fine collections with optimized electronic fine collection system	HTA	July 31, 2020
Reduce healthcare costs	Develop RFP to find and identify new healthcare provider at uniform rates established in Fiscal Plan	HTA	July 31, 2020
Roll out HTA productivity reporting	Calculate variable resource needs based on variable amount of CapEx delivered and provide detailed current state of payroll	HTA	August 10, 2020
Roll out HTA productivity reporting	Provide first set of productivity reports to FOMB	HTA	August 15, 2020
Adopt Capital Delivery KPIs	Align on a cadence of KPI reporting	HTA / FOMB	August 31, 2020

⁷⁰ The implementation of these initiatives will be taken over by PRITA if the institutional reorganization of the transportation landscape in Puerto Rico goes ahead as planned. However, as mentioned before, this Plan assumes that HTA will continue to maintain its current responsibilities, which include the operation of Tren Urbano and its feeder buses. Hence, this timeline assigns to HTA many initiatives that might eventually fall under the umbrella of PRITA.

Measure	Action item	Responsible party	Deadline
Eliminate Christmas bonus	Announce elimination of Christmas Bonus	HTA	August 31, 2020
Adopt Capital Delivery KPIs	Internally align on a set of project-specific KPIs	HTA	September 30, 2020
Increase toll fare revenue	Increase toll fares in line with the Fiscal Plan	HTA	September 30, 2020
Increase toll fare revenue	Issue RFP for new toll operator	HTA	September 30, 2020
Reduce healthcare costs	Select new healthcare provider	HTA	September 30, 2020
Adopt Capital Delivery KPIs	Submit proposed project-specific KPIs to FOMB for approval	HTA	October 31, 2020
Reassess Tren Urbano contracts	Begin reassessment of Tren Urbano operating contract	HTA/PRITA/P3A	October 31, 2020
Adopt Capital Delivery KPIs	Approve project-specific KPIs (with any necessary revisions) and determine a reporting cadence	FOMB	November 30, 2020
Increase toll fine revenue	Develop draft legislation for tiered fine system/ fine inflation increases and submit for FOMB review	Commonwealth	November 30, 2020
Reduce healthcare costs	Finalize new healthcare insurance contract and submit to FOMB for review	HTA	November 30, 2020
Expand transit revenue	Collaborate with other transportation entities to ensure transit system integration and asset transfers as needed (as per CW Fiscal Plan)	HTA, ATM, PRITA, DTOP, and AAFAF	December 31, 2020
Expand transit revenue	Adopt single farecard across systems	HTA, ATM, and PRITA	December 31, 2020
Expand transit revenue	Harmonize fares, routes, and schedules across systems	HTA, ATM, and PRITA	December 31, 2020
Improve ancillary revenue	Hire ancillary revenue management team	HTA	December 31, 2020

Measure	Action item	Responsible party	Deadline
Introduce new congestion management mechanisms	Complete planned DTLs	HTA	December 31, 2020
Collect discretionary grants	Hire discretionary grant management team	HTA	December 31, 2020
Reduce healthcare costs	Begin new healthcare insurance contract	HTA	December 31, 2020
Optimize capital expenses	Conduct analysis to identify CapEx delivery optimization and soft cost efficiency opportunities including:	HTA	December 31, 2020
Optimize capital expenses	Determine set of projects that would benefit most from creation of standard project definition workflows (e.g., commonalities, frequencies)	HTA	December 31, 2020
Optimize capital expenses	Determine set of projects that would benefit most from creation of standard design packages (e.g., number of stakeholders, frequencies)	HTA	December 31, 2020
Optimize capital expenses	Scan existing portfolio of projects in pre-construction and identify opportunities to leverage alternative procurement methods	HTA	December 31, 2020
Optimize capital expenses	Identify capability gaps within in-house construction team	HTA	December 31, 2020
Collect discretionary grants	Identify high-potential discretionary grants and compile a list of eligible projects, focusing on gaps in HTA's current application strategy	HTA	January 31, 2021
Increase toll fare revenue	Select new toll operator and begin contract negotiations	HTA	February 28, 2021
Increase toll fine revenue	Approve Law enabling fine price modifications	Commonwealth	February 28, 2021
Improve ancillary revenue	Begin a campaign of ancillary revenue increases through quick wins (e.g., advertising)	HTA	February 28, 2021

Measure	Action item	Responsible party	Deadline
Reassess Tren Urbano contracts	Launch a competitive procurement process for Tren Urbano operating contract	HTA/PRITA/P3A	February 28, 2021
Create new Board of Directors for HTA	Share draft of Law enabling the appointment of the Board of Directors with FOMB	Commonwealth	March 31, 2021
Increase toll fine revenue	Introduce tiered fine system	HTA	March 31, 2021
Improve ancillary revenue	Begin ancillary revenue increases that require a more substantial involvement with third parties (e.g., rentals)	HTA	March 31, 2021
Collect discretionary grants	Begin preparing discretionary grant applications and collecting all necessary supporting documents	HTA	March 31, 2021
Optimize capital expenses	Pilot improvements to address opportunities areas identified in capital delivery diagnostic	HTA	March 31, 2021
Optimize capital expenses	Create, and put into use, standard project definition workflows for initial set of projects	HTA	March 31, 2021
Optimize capital expenses	Create, and put into use, standard design packages for initial set of projects	HTA	March 31, 2021
Optimize capital expenses	Create alternative procurement RFP(s) for eligible projects	HTA	March 31, 2021
Optimize capital expenses	Create plan to address capabilities gaps (e.g., outsourcing, training) within the construction team	HTA	March 31, 2021
Optimize capital expenses	Incorporate FHWA-approved process improvements (e.g., pay-item sampling) to expedite invoice processing in project close-out	HTA	March 31, 2021
Adopt Capital Delivery KPIs	Confirm relevance of existing KPIs and propose any updates that might be necessary	HTA	April 30, 2021
Increase toll fare revenue	Finalize new toll operator contract and submit for FOMB review	HTA	April 30, 2021

Measure	Action item	Responsible party	Deadline
Expand transit revenue	Begin partnerships with private transport networks	HTA, PRITA, Private networks	April 30, 2021
Adopt Capital Delivery KPIs	Approve / reject proposed updates to KPIs	FOMB	May 31, 2021
Create new Board of Directors for HTA	Approve Law enabling the appointment of the new HTA Board of Directors	Commonwealth	May 31, 2021
Increase toll fare revenue	Begin operation of toll highways under new contract	HTA	June 30, 2021
Increase toll fare revenue	Begin expansion of Open Road Tolling	HTA	June 30, 2021
Improve ancillary revenue	Begin ancillary revenue increases that require long-term planning and complex legal agreements (e.g. joint real estate development initiatives)	HTA	June 30, 2021
Improve ancillary revenue	Develop a comprehensive ancillary revenue strategy, which will include a full asset inventory and an analysis of administrative constraints and submit to FOMB for review	HTA	June 30, 2021
Introduce new congestion management mechanisms	Begin operation of planned BRT line	HTA	June 30, 2021
Expand transit revenue	Identify potential new BRT lines	HTA	June 30, 2021
Expand transit revenue	Complete repair of Point of Sale (POS) machines to enable credit card usage	HTA	June 30, 2021
Create new Board of Directors for HTA	Hire executive recruitment firm to identify potential independent Board members	HTA	July 31, 2021
Introduce new congestion	Begin traffic signal optimization	HTA	August 31, 2021

Measure	Action item	Responsible party	Deadline
management mechanisms			
Reassess Tren Urbano contracts	Select new Tren Urbano operator	HTA/PRITA/P3A	August 31, 2021
Pursue concession opportunities	Evaluate and prioritize potential areas for additional concessions led by 3 rd party	HTA/P3A	August 31, 2021
Create new Board of Directors for HTA	Approve appointment of independent Board members	Commonwealth	October 31, 2021
Optimize capital expenses	Procure electronic records management system to facilitate efficient project close-outs	HTA	October 31, 2021
Expand transit revenue	Create more dedicated BRT spaces (e.g., special road lanes and drop-off zones)	HTA, Commonwealth, and Municipalities	November 30, 2021
Reassess Tren Urbano contracts	Draft new operating contract of Tren Urbano and submit to FOMB for review	HTA/PRITA/P3A	November 30, 2021
Reduce pension costs	Implement pension reductions of 8.5%	HTA	December 31, 2021
Pursue concession opportunities	Finalize evaluation on feasibility and desirability study of concession opportunities	HTA/P3A	December 31, 2021
Expand transit revenue	Identify barriers that prevent denser development near transit	HTA, ATM, and PRITA	January 31, 2022
Reassess Tren Urbano contracts	Begin operation of Tren Urbano under new contract terms	HTA/PRITA	February 28, 2022
Pursue concession opportunities	Finalize and share with FOMB detailed opportunity by opportunity execution plan for prioritized concession opportunities	HTA/P3A	April 30, 2022

Measure	Action item	Responsible party	Deadline
Pursue concession opportunities	Launch RFP(s) for prioritized concessions	P3A	Based on execution plan and aligned with legal constraints
Pursue concession opportunities	Begin first new concession agreement	HTA/P3A	Based on execution plan and aligned with legal constraints

CHAPTER 19: POST-CERTIFICATION REPORTING REQUIREMENTS FOR HTA

As it rigorously tracks the Plan's implementation, and as part of HTA's improved fiscal governance, to facilitate the Oversight Board accurately estimating projected revenues and expenditures going forward, HTA will need to submit a series of monthly reports to the FOMB. These will be due no later than the 15th day after the end of each month. The reports must reflect: i) Budget to Actuals performance; ii) liquidity; iii) bank balances; iv) CapEx obligations; v) progress in executing the Fiscal Measures of this Plan; vi) progress in executing capital delivery; vii) changes in headcount; viii) metrics of organizational productivity; ix) progress in executing HTA's MOUs with FHWA and EFL; and x) toll road traffic volume. The FOMB, with some exceptions, has been pleased with HTA's adherence to these reporting requirements to-date, and has found the data provided by HTA a valuable tool to monitor performance and implementation of the Fiscal Plan.

Budget to Actuals (B2A) Performance: HTA must use a template from FOMB to report its Year to Date (YTD) performance across all items in its Certified Budget. The Authority must also use another FOMB template to disclose additional details on certain budget items like CIP costs, operating expenses, and professional fees.

Liquidity: HTA must provide a liquidity report that includes actual cash flows by week for YTD and forecasted until the end of the Fiscal Year. All cash flows (receipts and disbursements) must be shown under the same classification that is followed in the Authority's Certified Budget. This will make it easier to track HTA's B2A performance on a cash basis; these should also be clearly separated into an OpEx and CapEx component.

Bank Balances: HTA must disclose all changes in its bank account balances and classify all bank accounts as capital or operational. In addition, it must show how these changes

correspond to the cash flows laid out in its Liquidity report and use a template from the FOMB to display the projected impact of any funds that are in transit at the time of the report.

CapEx Obligations: HTA must disclose the amount of CapEx funds that are obligated for capital expenses at the end of each month and how these funds break down by project.

Fiscal Measures: HTA must provide an update on the progress of the Fiscal Measures that are included in this Plan, including the revenues / cost savings achieved by implementing the measures YTD. The Authority must provide a detailed justification for any measure's underperformance, describe the main reasons it is behind, and lay out a path for getting its implementation back on track.

Capital Delivery (Pre-Construction): HTA must report, at a minimum, the following information for every project in the Pre-Construction phase: i) the unique identifier for the project (AC Code); ii) the description of the project (e.g., pavement rehabilitation, or bridge reconstruction); iii) the project's classification under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, and / or Abriendo Caminos); iv) the miles and roads affected by the project; v) the programmed bid opening date; vi) the actual bid opening date; vii) the programmed bid award date; viii) the actual bid award date; ix) the programmed NTP letter date; x) the actual NTP letter date; xi) the contractor in charge of the project; xii) the engineer estimate for the project cost; and xiii) the actual bid cost. HTA must also provide any other information about the pre-construction process that the FOMB might request during the course of the Fiscal Year.

Capital Delivery (Construction): HTA must report, at a minimum, the following information for every project that is in the Construction phase: i) the unique identifier for the project (AC Code), ii) the description of the project (e.g., pavement rehabilitation, or bridge reconstruction); iii) the project's classification under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, and / or Abriendo Caminos); iv) the miles and roads affected by the project, v) the region of the project (e.g., North, East, South, West), vi) the longitude and latitude of the project, vii) the original cost of the project, viii) the revised cost of the project, ix) the amount of dollars already disbursed, x) the original date of project completion, xi) the revised date of project completion, xii) the contractor in charge of the project, xiii) the HTA employee in charge of the project. HTA must also provide any other information about the construction process that might the FOMB might request during the Fiscal Year. This includes rolling out a CapEx dashboard that will enable stakeholders of the system to understand where improvements are ongoing as well as the performance of various projects.

Headcount: HTA must disclose the number of employees that enter and leave the Authority during each month. It should inform the FOMB about their division (e.g., Construction, Finance) and professional role (e.g., Engineer, Secretary).

Organizational Productivity: HTA must disclose the number of employees by division per millions of CapEx dollars disbursed during each month. It must also report the following information for the personnel in its construction-related divisions. It will need to use a template provided by FOMB to report: i) the number of employees (broken down by professional role) working on each project during each project phase, and ii) the number of projects each employee oversees (including hours dedicated to each project, if applicable).

FHWA – HTA MOU: HTA must provide an update on the progress of the initiatives outlined in its MOU with FHWA. At a minimum, this update must include the initiative's launch date, estimated completion date, and the work performed on it during each month. The Authority must also provide a detailed justification for any delays in MOU implementation, describing the main drivers of the delay and providing a plan of actions path that will get MOU implementation back on track. It must also disclose any other information about its MOU with FHWA that the FOMB might request during the course of the Fiscal Year.

EFL – HTA MOU: HTA must provide an update on the progress of its collaboration with EFL. More specifically, HTA must report the following information for every EFL project: i) the unique identifier of the project (AC Code), ii) the region of the project, iii) the miles and the roads affected by the project, iv) the original cost of the project, v) the revised cost of the project, vi) the amount of dollars already disbursed, vii) the original date of project completion, viii) the revised date of project completion. The Authority must also provide a detailed justification for any delays on these collaborative projects with EFL. It needs to describe the main reasons for the delays and a plan of action to get back on track.

Toll Road Traffic Volume: HTA must report the monthly volume of vehicle traffic in all the toll roads of Puerto Rico, regardless of whether these roads are partly or wholly owned by concessionaires.

Exhibit 61: Post-certification reporting requirements (Financials & traffic volume)

Report type	Details	FOMB reporting cadence	Public reporting
Budget to Actuals	<ul style="list-style-type: none"> Report Year to Date (YTD) performance across all items in the Certified Budget Disclose additional details on certain budget items like CIP costs, operating expenses, and professional fees 	▪ Monthly	▪ Monthly
Liquidity & bank balances	<ul style="list-style-type: none"> Provide a liquidity report that includes actual cash flows by week for YTD and forecasted until the end of the Fiscal Year, using the same classification of revenues and expenses as the Certified Budget Disclose all changes in bank account balances and classify all bank accounts as capital or operational Show how changes in bank balances correspond to cash flows and display the projected impact of any funds that are in transit at the time of the report 	▪ Monthly	▪ Monthly
Fiscal measures	<ul style="list-style-type: none"> Provide an update on the progress of the Fiscal Measures that are included in this Plan, including the revenues / cost savings achieved by implementing the measures YTD Provide a detailed justification for any measure's underperformance, describe the main reasons it is behind, and lay out a path for getting its implementation back on track 	▪ Monthly	▪ Monthly
Toll road traffic	<ul style="list-style-type: none"> Report the monthly volume of vehicle traffic in all the toll roads of Puerto Rico 	▪ Monthly	▪ Monthly

Exhibit 62: Post-certification reporting requirements (Labor data and MOU obligations)

Report type	Detail	FOMB reporting cadence	Public reporting
Headcount	<ul style="list-style-type: none"> Provide information on all headcount changes (openings, additions, exits, closings) Classify all headcount changes by division and by professional roles 	Monthly	Monthly
Organizational productivity	<ul style="list-style-type: none"> Disclose number of employees by division per Million of CapEx dollars disbursed Provide the number of employees (broken down by professional role) working on each project during each project phase Provide the number of projects overseen by each employee (including hours dedicated to each project) 	Monthly	Monthly
FHWA – HTA MOU	<ul style="list-style-type: none"> Provide an update on the progress of initiatives outlined in the FHWA – HTA MOU, including: a) Launch date of each initiative, b) Estimated completion date of each initiative and c) Work performed on each initiative during each month Explain drivers of underperformance and lay out a path for getting implementation back on track 	Monthly	Monthly
EFL – HTA MOU	<ul style="list-style-type: none"> Provide an update on collaboration with EFL, including: a) Unique identifier of each EFL project (AC Code), b) Region of the project, c) Miles and roads affected by the project, d) Original cost of the project, e) Revised cost of the project, f) Amount of dollars already disbursed, g) Original date of project completion, h) Revised date of project completion 	Monthly	Monthly

Exhibit 63: Post-certification reporting requirements (Capital delivery)

Report type	Detail	FOMB reporting cadence	Public reporting
Capital delivery (pre-construction)	<ul style="list-style-type: none"> Provide the following information for every project in the pre-construction phase: a) Unique identifier of the project (AC Code), b) Description of the project (e.g., pavement rehabilitation, bridge reconstruction etc.), c) Classification of the project under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, Abriendo Caminos), d) Miles and roads affected by the project, e) Programmed bid opening date, f) Actual bid opening date, g) Programmed bid award date, h) Actual bid award date, i) Programmed NTP letter date, j) Actual NTP letter date, k) Contractor in charge of the project, l) Engineer estimate for project cost, m) Actual bid cost Provide any other information that might be requested by the FOMB 	Monthly	N/A
Capital delivery (ER construction)	<ul style="list-style-type: none"> Provide a list of active construction and pre-construction projects and disbursements 	Monthly	N/A
CapEx obligations	<ul style="list-style-type: none"> Disclose the amount of funds that are obligated for capital expenses, broken down by project 	Monthly	N/A

Exhibit 64: Post-certification reporting requirements (Capital delivery)

Report type	Detail	FOMB reporting cadence	Public reporting
Capital delivery (construction)	<ul style="list-style-type: none"> Provide the following information for every project in the construction phase: a) Unique identifier of the project (AC Code), b) Description of the project (e.g., pavement rehabilitation, bridge reconstruction etc.), c) Classification of the project under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, Abriendo Caminos), d) Miles and roads affected by the project, e) Region of the project (e.g., North, East, South, West), f) Longitude and latitude of the project, g) Original cost of the project, h) Revised cost of the project, i) Amount of dollars already disbursed, j) Original date of project completion, k) Revised date of project completion, l) Contractor in charge of the project, m) HTA employee in charge of the project Provide any other information that might be requested by the FOMB 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> N/A
Capital delivery (Public dashboard)	<ul style="list-style-type: none"> Provide a list of active projects across all program types (i.e., Federal, State, ER, EFL) Describe progress completed during the month with key project information (e.g., NTP date, expected cost and completion date, delays and cost overruns, region and type of the project) 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Monthly

APPENDIX B – EASTERN FEDERAL LANDS MEMORANDUM OF UNDERSTANDING

OBLIGATIONS, RESPONSIBILITIES, AND FUNDING

A. The PRHTA agrees to:

1. Designate a point of contact with decision-making authority so that all communication regarding the Work will be coordinated and managed through such person;
2. Provide the required funding for the Work through assigned ER funds, PRHP funds, or other funding sources as appropriate and as determined by PRHTA;
3. Allow EFLHD to pay for all costs related to meeting federal requirements as well as for the management, design, and construction of the Work. Costs shall include, but are not limited to, preparation of the environmental documentation, permits and other clearances, design, construction, construction engineering, and other related engineering, program and project administration activities;
4. Provide design assistance to EFLHD and its designees, participate in progress meetings, design field reviews and approvals, and final construction inspections, as required;
5. Review and comment on the scope, prioritization, schedule, budget, and subsequent updates of the proposed projects within the timelines requested by EFLHD;
6. Maximize use of existing permit exemptions and programmatic agreements by providing guidance and general assistance to EFLHD and its designees in the preparation of permits, and when necessary, submitting permit applications to obtain clearances from all permitting agencies in the Commonwealth of Puerto Rico and Municipalities;
7. Assist EFLHD and its designees in preparing permit applications to obtain all required Federal Permits and clearances;
8. Acquire necessary right-of-way (ROW);
9. Coordinate and execute utility agreements to provide timely relocations;
10. If the actual costs of the Work are anticipated to exceed the estimates in the approved DDIRs, the PRHTA and EFLHD agree to utilize one or more of the following options:
 - a. EFLHD and PRHTA may revise the budget to reflect the new estimate(s) and PRHTA will transfer additional funds needed to complete the construction of the

Work. EFLHD will request additional funds in time to have them in place before funds are exhausted. PRHTA will determine the type of supplemental funds to be transferred based on the availability of funding at the time of request to ensure compliance with the Anti-Deficiency Act (31 U.S.C. § 1341(a)(1)).

b. Reduce the scope of work such that available funding is sufficient to cover the estimated costs.

c. EFLHD may cease work on the unfunded aspects of the Work: or

d. Any combination of (a), (b) or (c).

11. In addition, for projects designed by PRHTA and its designees:

a. Provide all Plans, Specifications, and Estimate (PS&E) packages for general EFLHD review and comments. Address comments provided by EFLHD and provide a written explanation of how each comment was addressed within the timelines requested by EFLHD;

b. Provide ready for procurement/construction PS&E packages in Federal Fiscal Year 2019 (FY19) addressing all EFLHD comments. For projects to be advertised for construction in FY19, provide the final PS&E a minimum of 3 months before the quarter in which the project is to be advertised. The PS&E package includes, but is not limited to:

i. Project priority list that organizes PS&E packages in order of priority for PRHTA;

ii. Plans, specifications, construction cost estimates, design technical reports, quantity calculations, National Environmental Policy Act (NEPA) documentation, permits, agreements, and clearances from Federal and local governments;

iii. PS&E package certification indicating that all projects issues related to design, NEPA, permitting, ROW, and utilities have been addressed and the projects are ready for construction;

c. Assist answering bidder questions within 3 working days, when assistance is requested. Assist in other aspects of the procurement process as needed; and

d. Provide technical assistance as needed to respond to issues during construction within the timelines requested by EFLHD.

12. Participate in monthly status meetings as required.

13. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.

B. The FHWA-PR/USVI agrees to:

1. Provide federal-aid funding for the Work including ER and other Puerto Rico Highway Program funds as appropriate and approve the transfer of funds from the PRHTA ER funds to the EFLHD prior to the start of any work by EFLHD as presented in the Financial Plan;
2. Delegate to EFLHD the approval of all federal actions including but not limited to:
 - a. National Environmental Policy Act (NEPA) documentation and permits;
 - b. ROW plans and administrative review of ROW acquisition and utility relocation activities by PRHTA, when applicable;
 - c. The statements of work and award of any consultant contracts for the Work;
 - d. Final PS&Es for advertisement, all contract administration efforts, construction inspections, and approval of the completed project; and
 - e. Authorization for contract awards, contract administration, contract modifications, inspection, project acceptance, and contract completion.
3. Provide guidance on ER funding eligibility when requested;
4. Keep track of projects authorized based on the approved ER program;
5. Review and update the DDIRs if a change in scope occurs or there is an increase of twenty (20) percent from the original estimates;
6. Participate in EFL's FIRE and QA/QC reviews as required or requested by EFL;
7. Participate in monthly status meetings;
8. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.

C. EFLHD agrees to:

1. Be the lead federal agency for applicable federal actions, project development, and overall coordination of the Work;
2. Be responsible to meet timetable and delivery budgets while ensuring full compliance

with applicable federal laws and regulations;

3. Accept funds as defined in Article III of this agreement;
4. Coordinate and develop the scope, schedule and budget for the delivery of the sites, evaluate project development approach and proceed with procurement as deemed best by EFLHD;
5. Procure and administer any consultant assistance contracts deemed necessary;
6. Review A/E's PS&E packages and provide technical support for quality control (QC) of A/E work;
7. For projects to be designed by EFLHD:
 - a. Conduct survey and mapping necessary for design activities;
 - b. Conduct subsurface investigations;
 - c. Lead the preparation of environmental documents required by the NEPA, as amended, and 23 CFR 771, including the Environmental Impact Statement / Record of Decision, Categorical Exclusion, Environmental Assessment / Finding of No Significant Impact, and 4(f) Evaluation, and coordinate the necessary approvals for Section 106 of the National Historic Preservation Act, the Endangered Species Act, and the Clean Water Act;
 - d. Prepare environmental permit applications as required;
 - e. Prepare necessary ROW documentation for PRHTA to acquire any necessary ROW
 - f. Develop and administer utility agreements, if necessary;
 - g. Prepare preliminary and final PS&E packages for the Work using PRHTA design standards and specifications.
 - h. Evaluate the resiliency of the proposed replacement and consider incorporating cost effective features that will make the facilities more resilient and reduce the risk of damage from future events. Document all resiliency measures implemented as required in the ER Manual.

For projects designed by PRHTA:

- a. Provide Geotechnical and Structural Engineering reviews for the regular landslide projects;
- b. Provide general reviews of PS&E packages, as deemed necessary;

- c. Develop Administrative Contract Specifications to add EFLHD's procurement and contract administration requirements on the projects; and
 - d. Packaging/bundling the projects for bidding;
9. Provide brief written status reports on a monthly basis to PHRTA, FHWA PR/USVI, and the USDOT Transportation Recovery Representative on the Work;
 10. Advertise and award the construction contract(s);
 11. Administer the construction contract(s), including necessary construction engineering and inspection (CEI);
 12. Process payments to CEI consultants, contractors and utility companies, as applicable;
 13. Conduct final inspection of the Work;
 14. Promptly initiate close-out and return unexpended funds once final costs for the Work are known, including the transfer of the facilities after acceptance by the owner;
 16. Coordinate with PRHTA's National Bridge Inventory program manager to ensure all load rating work will meet Puerto Rico's legal load requirements as well as Emergency Vehicle loadings as established in the FAST Act.
 17. Use SP-934 specification for all structural concrete work
 18. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.